

ORIENTATION FOR ELEMENTARY TEACHER-EDUCATORS  
ON IDENTIFICATION, ASSESSMENT AND PLACEMENT OF  
SC/ST DISABLED CHILDREN OF WEST BENGAL

PHASE - II

*From*

5 7. 1993 TO 9. 7. 1993



**Dr. TAPATI DUTTA**

PROGRAMME DIRECTOR

REGIONAL COLLEGE OF EDUCATION

BHUBANESWAR



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## FOREWORDS

The Second Phase of "The Orientation Programme For Elementary Teacher Education on Identification Assessment And Placement of SC/ST Disabled Children of West Bengal" was organised in collaboration with West Bengal Government, at Narajapur, 24 South Parganas, from 5.7.93 to 9.7.93. This programme was specially organised on the request of the West Bengal Government and on the demand from the participants. During those five days, along with the theoretical discussions, the participants were taken to NIOH, Calcutta Blind School, Calcutta Deaf and Dumb School, Rehabilitation Centre For Children, Blind Boys Academy and Bodhipeet for practical exposure. Visits to various Institutions had helped to develop more skills and competencies in the participants in dealing with special education as a part of Primary Teachers' Training programme.

The programme was conducted under the directorship of Dr. Tapati Dutta, quite effectively. She has taken care to deal with all the areas of Disabilities in the report so that the participants can confidently discharge their duties while instructing elementary teachers.

Mr. G. Bagchi, D.D.S.E. who attended the programme throughout has not only appreciated the programme but made a request for organising 2 such programmes in West Bengal for the benefit of teachers.

It is thus felt that such programmes are getting momentum and your suggestions will be appreciated.

  
Prof. K.C. Panda  
Principal



## BRIEF REPORT

"Orientation Programme for Elementary Teacher-Educators on Identification, Assessment And Placement of SC/ST Disabled Children of West Bengal", Phase II was held from 5.7.93 to 9.7.93 at Ramakrishna Mission Shiksha Parisad, Narendrapur, South 24 Parganas. Swami Asaktananda, Secretary, Ramakrishna Mission, Ashrama, Narendrapur, presided over the inaugural function. In his inaugural address he highlighted the facilities available for visually impaired boys in Blind Boys Academy. He also mentioned about the new village based projects taken up by the mission for educating and rehabilitating not only the disabled children, but also the children <sup>belonging to</sup> socially disadvantaged classes.

Mr. Gopal Bagchi, Deputy Director of School Education welcomed the team and the participants on behalf of West Bengal Government. He expressed his gratitude and appreciation for organizing this programme in West Bengal for its utility and urgency.

Dr. T. Dutta, the Director of the programme welcomed the guests and the participants on behalf of the R.C.E. and N.C.E.R.T. She pointed out that the prime objective of this programme is to develop skills, and competencies for teaching 'Special Education' in Primary Teachers Training Programme. She emphasised that most of the theoretical discussions were over in the first phase of the programme at PTTI, Berajgulia during July, 1992. Reading materials have already been supplied to them well in advance so that they can come forward with their doubts. The present 5 days is over loaded with lecturers, group discussions and visits to various institutions for practical exposure.

Mr. P. Sahu briefed about the assignments to be submitted by the participants about the visits to different institutions.

Dr. S.K.Goel spoke on importance of practicals in special education and extended vote of thanks. During the programme lectures were arranged on some important topics, Group discussions were conducted after the visit to the various institutions.

Mr.G.Bagchi, DDSE, Mr.I.Sinha, Deputy Director and Mrs. Bandana Das the Course-coordinator from West Bengal were present all the five days and accompanied the team during visits.

Sri Shib Sankar Chakravorty, Director, Lokshiksha Parishad, Narendrapur presided over the Valedictory function. Dr. T.Dutta, the programme director presented the brief report. Certificates were distributed. Sri Chakravorty in his valedictory address narrated some of his practical experiences while working with the Disabled Children. Sri Ranjit Kumar Mukherjee described his long experiences at Narendrapur. Mr.G.Bagchi addressed the participants and expressed that the special education (IED) is going to be included in the primary teachers' training syllabus and appreciated the new venture. He also requested the Programme Director to conduct at least two more programmes of this kind one in North Bengal and the other in Eastern part of West Bengal for wider coverage. Mr. P.Sahu extended the vote of thanks. Mrs.B.Das thanked the whole team, guests and the participants on behalf of the West Bengal Government.

X. K.

( Dr. T. Dutta )  
Programme Director

### EXTERNAL RESOURCE PERSONS

1. Mr. Gopal Bagchi,  
D.D.S.E.,  
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7th Floor  
Salt Lake city, Sector-II  
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2. Mr. Nilyananda Sinha,  
D.D.S.E.,  
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3. Mrs. Bandana Das,  
Principal,  
Teachers' Training Dept.  
Gokhale Memorial Girls' School  
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1/1 Harish Mukherjee Road,  
Calcutta - 700020
4. Mr. K.K.Das,  
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Calcutta-9

### INTERNAL RESOURCE PERSONS

- 1) Dr. Tapati Dutta,  
Programme Director,  
R.C.E., Bhubaneswar.
- 2) Dr. S.K. Goel,  
Reader in Special Education,  
R.C.E., Bhubaneswar.
- 3) Mr. P. Sahu,  
Lecturer in Special Education,  
R.C.E., Bhubaneswar.

**SPECIAL ORIENTATION OF ELEMENTARY TEACHER EDUCATORS  
IN IDENTIFICATION, ASSESSMENT AND PLACEMENT OF DISABLED  
CHILDREN OF WEST BENGAL. ( SECOND PHASE).**

**LIST OF PARTICIPANTS**

1. Sri Manindra Kumar Bhattacharyaya,  
Lecturer,  
Krishnanagar Govt.P.T.T.I.,  
P.O. Krishnanagar, Dt.Nadia
2. Sri Ananda Kumar Biswas,  
Lecturer,  
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P.O. Sargachi, Dt.Mursaidabad.
3. Sri Gopal Ranjan Das,  
Lecturer,  
Md.Bazar Govt.Spon P.T.T.I.  
P.O. Md.Bazar, Dt.Barbhum.
4. Md.Olimuzzaman, Lecturer,  
Sabrakona Govt.P.T.T.I.  
P.O. Sabrakona, Dt.Bankura
5. Sri Biswarup Banerjee,  
Lecturer  
Berhampore Govt.P.T.T.I.  
P.O.Berhampore, Dt.Msd.
6. Sri Dilip Kumar Basu,  
Lecturer,  
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P.O. Purulia, Dt.Purulia.
7. Sri Subir Kumar Ghosh,  
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8. Sri Ranjit Kumar Koley,  
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11. Sri Swadesh Ranjan Roy,  
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13. Smt.Sandhya Chowdhury,  
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P.O. Salkia, Dt.Howrah.
14. Sri Haradhan Dhara,  
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Jagatballavpur Govt.P.T.T.I.  
P.O.Jagatballavpur  
Dt. Howrah.
15. Sri Hemendra Ch.Pandit,  
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18. Smt.Purabi Banerjee,  
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20. Sri Sukumar Das,  
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21. Sri Subodh Ku.Chakraborty,  
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22. Md.Jamaluddin, Lecturer,  
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23. Smt.Sandhya Das,  
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Prajnananda Govt.P.T.T.I.  
P.O.Barajagulia, Dt.Nadia.
24. Sri Bimal Kanti Saha,  
Principal,

# TIME TABLE

<u>Date</u>	<u>Time</u>	<u>Topic</u>
5.7.93	08.00 - 09.00	Registration
	09.00 - 10.00	Inauguration
	10.00 - 11.00	Children with special need, labelling and management .
	11.00 - 12.00	Special Education and Curriculum Planning .
	12.00 - 12.30	L J N C H
	12.00 - 02.00	Visit to Blind Boys' Academy, Nandapur accompanied by Dr. T. Dutta, Dr. S.K. Goel, Mr. P. Sahu, Mr. S. Bagchi, Mrs. B. Das.
	02.00 - 03.00	Discussion and Reaction of participants with Dr. T. Dutta, Dr. S. K. Goel and Mr. P. Sahu.
	03.00 - 04.00	Role of Regular and Resource Teachers.
	04.00 - 05.00	NPE and Special Education.
6.7.93	09.00 - 10.00	Physio therapy and occupational therapy.
	10.00 - 11.00	Early Identification of educational problems.
	11.00 - 12.00	Learning Disability.
	12.00 - 02.30	Visit to NIOH accompanied by Dr. T. Dutta, Dr. S.K. Goel, Mr. P. Sahu, Mr. S. Bagchi, Mrs. B. Das, Mr. N. Sinha.
	02.30 - 03.30	Discussion with Dr. T. Dutta, Dr. S.K. Goel, Mr. P. Sahu.
	03.30 - 04.30	Curriculum Adjustment and Adaptation to SEN.
	04.30 - 05.30	Psycho-educational characteristics of MR.
7.7.93	09.00 - 10.00	Disorder of speech, language and hearing.
	10.00 - 11.00	Aids and equipments.
	11.00 - 12.00	IED for Visually Impaired.
	12.00 - 02.00	Visit to Calcutta Blind School.
	02.00 - 03.00	Visit to Rehabilitation Centre for children. Accompanied by Dr. T. Dutta, Dr. S.K. Goel, Mr. P. Sahu, Mr. S. Bagchi, Mrs. B. Das, Mr. N. Sinha.
	03.00 - 04.00	Discussion (T. Dutta, SKG, PS)
	04.00 - 05.00	Plus Curriculum.
	05.00 - 06.00	Hearing Impairment and IED.

contd..2/-

8.7.93	09.00 - 10.00	Locomotor Disability
	10.00 - 11.00	Learning and Teaching.
	11.00 - 12.00	Teaching to EMR
	12.00 - 01.30	Visit to Calcutta Deaf and Dumb school.
	01.30 - 03.00	Visit to Bodhipeet. Accompanied by Dr. T. Dutta, Dr. S. K. Goel, Mr. P. Sahu, Mr. G. Bagchi, Mrs. B. Das, Mr. A. Panha.
	03.00 - 04.00	Discussion with Dr. T. Dutta, Dr. S. K. Goel, Mr. P. Sahu.
	04.00 - 05.00	Teaching language to EMR.
	05.00 - 06.00	Care, Education and management
9.7.93	09.00 - 10.00	Instructional Resources
	10.00 - 11.00	Prevention of Mental Retardation.
	11.00 - 12.00	Classroom and behaviour management
	12.00 - 01.00	Teaching hearing impaired children.
	01.00 - 02.00	L U N C H
	02.00 - 03.00	Feedback and Group Discussion.
	03.00 - 04.00	Valedictory
	04.00 - 05.00	Disbursement of TA/DA.

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NATIONAL POLICY ON EDUCATION

Dr. R. C. Das

1. National Policy on Education

Part III : National System of Education

3.2 The Concept of a National System of Education implies that, upto a given level, all students, irrespective of caste, creed, location or sex, have access to education of a comparable quality.

3.4 The National system will be based on a national curricular framework which contains a common core along with other components that are flexible.

Part IV : Education for Equality

Disparities

4.1 The new policy will lay special emphasis on the removal of disparities and to equalise educational opportunity by attending to the specific needs of those who have been denied equality so far.

4.9 The Handicapped

The objective should be to integrate the physically and mentally handicapped with the general community as equal partners to prepare them for normal growth and to enable them to face life with courage and confidence. The following measures will be taken in this regard:

- i) Wherever it is feasible, the education of children with motor handicaps and other mild handicaps will be common with that of others.
- ii) Special schools with hostels will be provided as far as possible at district headquarters, for the severely handicapped children.

- iii) Adequate arrangements will be made to give vocational training to the disabled.
- iv) Teachers' training programmes will be re-oriented, in particular for teachers of primary classes to deal with the special difficulties of the handicapped children; and
- v) Voluntary effort for the education of the disabled will be encouraged in every possible manner.

#### Elementary Education

5.5 The new thrust in elementary education will emphasize two aspects: (i) universal enrolment and universal retention of children upto 14 years of age, and (ii) substantial improvement in the quality of education.

#### Programme of Action (POA)

Of the estimated 12 million disabled persons 4.3 million are in the age group 6-14 (universalisation of primary education age group). To this may be added 1.4 million of earlier age-group which has relevance for early identification and preparation. This does not include learning disabled children who are normal in intelligence and have no visual or hearing handicap but have specific learning deficiencies in reading, writing and/or arithmetic due to problems in psychological processes like perception, memory and information processing.

The POA suggests that mildly handicapped children who can receive education in common with other normal children should be brought within the

educational system by 1990 and 1995. For severely handicapped children who require services in special institutions, the POA suggests universalisation of educational services by 2000 A.D. To achieve this an increase in enrolment of disabled children in general schools by 25 per cent every year has been envisaged.

### Integrated Education for the Disabled Children (IEDC)

1. Aims and Objectives - The Centrally Sponsored Scheme of Integrated Education for the Disabled Children (IEDC) purports to provide educational opportunities for the disabled children in common schools. In addition to children with locomotor and other handicaps, the POA recommends that other disabled children who are placed in special schools should also be encouraged for integration in the common schools once they acquire the communication and daily living skills at a functional level.
2. Type of Scheme - This is a centrally sponsored scheme under which the central government will give 100% assistance to the States/U.P. for implementation of the scheme. This is subject to the condition of prior creation of technically qualified staff as laid down in the scheme. This scheme started in 1974 under Min. of S.A. and transferred to Ministry of Education in 1982.
3. Scope - It is proposed to provide educational facilities under this scheme for the following types of disabled children.
  - (a) Children with locomotor handicap (orthopaedically handicapped).

- (b) Mildly and moderately hearing impaired (categories I & II).
- (c) Partially sighted children (categories 0, I, and one-eyed).
- (d) Mentally handicapped-educable group (IQ 50-70).
- (e) Children with multiple handicaps.
- (f) Children with learning disability.

The children with following handicaps can also be integrated in common schools after preparation.

- (g) Visually impaired children (category, II, III and IV).
- (h) Severe and profound hearing impaired children (categories III and IV).

The scope of the scheme includes pre-school training for the disabled children and counselling for parents. It includes, among other things, special training for the hearing handicapped children, mobility and orientation training for the visually handicapped, parent counselling and training in home management of these children.

The education of the disabled children under this scheme will continue upto senior secondary level and included vocational courses.

#### Administrative Cell

An Administrative Cell to be set up by the State Education Department will have a Deputy Director (in the State Govt. scale of pay), a Coordinator (who will be a psychologist in the scale of pay of a University lecturer) a Special Educator (in the scale of pay of a university lecturer), a Stenographer and an Lower Division Clerk (in the State Govt. scales of pay). This Cell will implement, monitor and evaluate the programme.

### Implementation

To begin with the scheme may be introduced in selected blocks and gradually extended to other blocks and areas. First a survey of all disabled children in the selected block will be made. Then assessment of the disability will be made and provision made for their education.

### Assessment

The Coordinator of the Programme will be responsible for the assessment of the children and monitoring their progress. A three number assessment team comprising a doctor, a psychologist and a special educator will be formed to assess the disabled children. Whenever District Rehabilitation Centres have been established its resources for assessment may be used. Members of the assessment team will be given P.A. and D.A. as per service rules. The average cost of assessment should not exceed Rs.150/- per disabled child. The assessment report should be comprehensive enough for educational programming. It should specifically indicate whether the child can be put directly into school or should receive preparation in special school/special preparatory class in Early Childhood Education Centre.

### Facilities for Disabled Children:

A disabled child may be given the following facilities:

- (i) a. Books and Stationery allowance of Rs.400/- per annum.  
b. Uniform allowance of Rs.200/-per annum.  
c. Transport allowance of Rs.50/-per month.

- d. Reader allowance of Rs.50/- per month in case of blind children in Class-V.
  - e. Escort allowance for severely handicapped @ Rs.75/- per month.
  - f. Actual cost of equipment subject to a maximum of Rs.2000/-per student for a period of five years.
- (ii) One attendant in school for 10 severely orthopaedically handicapped children.
  - (iii) Boarding and Lodging charges to disabled children residing in hostels of the institution where they are studying at State Government rates, subject to a maximum of Rs.200/-per month.
  - (iv) Special pay of Rs.50/- per month to a hostel employee to act as helper to a severely orthopaedically handicapped children residing in hostel.
  - (v) In a rural school where at least 10 handicapped children are enrolled, capital cost for purchase of a school rickshaw and Rs.300/- per month for a rickshaw puller.

#### Special Teacher Support:

No special teacher is needed for children with locomotor disabilities. Special teacher is needed for blind and hearing impaired children. One special teacher may be appointed for every 8 such disabled children enrolled.

#### Qualifications of Special Teachers

**Primary:-** Secondary Education(preferably 10+2)with one year in education of children with a particular disability.

**Secondary:-** Graduate with B.Ed.(Special Education)with specialisation in a particular disability.  
Special teacher will get the scales of pay of teachers of corresponding category in the State/ Union Territory plus a special pay of Rs.150/- in urban areas and Rs.200/-in rural areas.

Resource Room:- A resource room having all the essential equipment, learning aids and materials may be provided for a cluster of schools implementing the scheme. The average cost of such equipment is Rs.30,000/-. A new room may be built for resource room where no such accommodation is available in a school at a cost of Rs.40,000/-. Grant shall be available for qualifying architectural facilities for easier access of disabled children to a school having at least ten such children.

Provision for Education of the Disabled:

Special Schools

Particularly for the severely handicapped children special schools were established. Usually one school provided education for children of a single disability. This enabled the school to provide special equipment necessary for children of that disability and also provide specially trained staff specialising in that disability. Most of these schools are residential and take care of the children throughout the day. These schools provide special services needed by these children and provide a sheltered environment for them. The teacher-pupil ratio is high about 1:5. These schools are expensive because of the special equipment, better trained special staff and high teacher-pupil ratio. The provision of hostel also increases cost.

Because of the high cost, it will not be possible to provide such special schools for all disabled children. (who are estimated to be about 3 to 4 percent of the total population). Further since these schools provide a highly protected environment, these children feel difficulty

in adjusting with the outer environment after they leave school. While these special schools are essentially required for the severely disabled, they are not so essential for the moderately and mildly disabled children who can be educated in ordinary schools provided some special services can be provided for them in these schools.

#### Special Class in General Schools:

Another way of providing education for disabled children is through special class in general school. In such schools although the disabled children are physically in the same school as the normal children, they receive education separately in special classes according to their disability where special teachers trained in that disability teach them. Equipment needed for them are also provided in these special classes.

In these schools while disabled children are taught separately in special classes, they are integrated with other children in extra-curricular activities to the extent possible. Where hostels are provided, they are allowed to live in the same hostel as normal children. This enables these children to learn to adjust to the environment of the normal society. The normal children also learn to accept the disabled children and help them wherever possible.

In such schools, mildly disabled children can also be put in general classes with other children after they are given some preparation in special classes. They also get help from special teachers as and when necessary.



The cost of education for disabled children in these schools is almost the same as in special schools. The only advantage is that the disabled children are better helped to integrate with society.

Rational for Integrated Education:-

It is estimated that there are more than 12 million children in the elementary school age who are disabled. Disabled children constitute generally 3 to 4% of the population. This excludes children with learning disability who may constitute about 1%. Educational provision should be made for all these children. At present there are a few special schools covering a very small number of children. Special Schools are very costly and it would not be possible to provide special schools for all disabled children.

Fortunately it is found that except severely handicapped children, all other disabled children can be educated in common schools provided certain provisions are made for them in these schools. The expenditure in making these special provisions for the disabled in common schools is much less than the expenditure in establishing a special schools.

Further, education in common schools is preferable to education in special schools, as in the former, the disabled children learn to adjust with normal children. This helps them in their integration with society and in their rehabilitation. The normal children also learn to adjust with disabled children. Thus they accept the disabled in the later social life. The children, disabled and normal, learn to help each other. The National

Policy on Education therefore envisages that "wherever it is feasible, the education of children with motor handicaps and other mild disabilities will be common with that of others".

Conditions for success of integration:

Although integrated education of the disabled in common schools is desirable, it will not be effective unless certain special provisions are made. The following conditions are necessary for success of integrated education:

- (1) The disabled children should be identified areawise. For this house to house survey is needed. After identification, the nature and extent of their disability should be assessed by a qualified technical team.
- (2) Based on the assessment, the children are placed in common schools or special schools. Those placed in special schools are again integrated as early as possible after they acquire communication skills.
- (3) Schools selected for integrated education of the disabled should be provided with one special teacher for every eight disabled children. This teacher should be well trained in the education of disabled children. He should provide training in communication skills to the disabled children and monitor and help in their progress.
- (4) All teachers of the school should be given some orientation training in the education of the disabled.

- (5) The School should be provided with special equipment required for the education of the disabled.
- (6) Necessary architectural modification of the School building should be made for removing barriers in movement of the disabled.
- (7) Community awareness programme should be made so that the community understands the need of the integrated education.
- (8) Parents are given training in handling the disabled at home.

Project Integrated Education for the Disabled (PIED):

The PIED has been designed to strengthen implementation of the centrally sponsored scheme of Integrated Education for Disabled Children (IEDC). It is UNICEF assisted as per Govt. of India - UNICEF. Master Plan of Operations.

Special Features:

- (1) It is confined to one selected block in each of five states in 1987-88 and extended to four additional States/ Union Territories in 1988-89 implementing IEDC.
- (2) Composite area approach has been adopted for planning educational services for the disabled in common with others.
- (3) A Project team comprising a project officers, two trained graduate special teachers and a statistical assistant will be formed and located at Block Education Offices. Two motor cycles will be provided.
- (4) The Project Area Resource Centre will have some aids and equipment from IEDC. The supplies will be augmented where considered necessary.
- (5) State level resource centre will be strengthened by augmenting equipment, supply of training material and training of personnel.

- (6) The special Education Unit of NCERT will be responsible for all aspects of Project implementation and management. It will be developed as the central Resource Centre (PIED).
- (7) The SCERT will be directly responsible for Project planning, implementation, monitoring and evaluation at the State Level.
- (8) A Project Area Centre will be established in selected project areas and located at a primary school. A teacher with training in special education will be in charge of the Centre. The Centre will have Instructional Material Bank (IMB) to meet the special education needs of disabled children.
- (9) All UNICEF funds for the Project will be channelised through NCERT. The UNICEF will meet the following costs:-
  - salary of one Project Officer and two trained graduate special teachers for each of the blocks selected for the Project.
  - two motor cycles for each project team including running costs.
  - surveys for identification, training and orientation of Project teams.
  - Providing equipment on a selective basis
  - printing of learning, teaching and training materials.
  - participating in and helping in Project designing, planning, implementation, monitoring and evaluation at national and state levels.

CHILDREN WITH SPECIAL EDUCATIONAL NEEDS:  
LABELLING AND MANAGEMENT

Dr. (Miss) Tapati Dutta  
Sr. Lecturer,  
R.C.E., Bhubaneswar.

The Meaning of Special Educational Needs (SEN) :

The concept of individual difference refers to that each individual child is unique, having interest, aptitude, intelligence achievement and personality of his own. Whether normal or handicapped. A child may become handicapped due to various reasons.

Impairment refers to diseased or defective limbs and tissues, example child having no vision or damage of brain caused by anoxia (lack of Oxygen during birth) may result in blindness or cerebral palsy.

Disability refers to the reduction of function or the absence of a part of the body. For example blind people have disability in mobility.

Handicap refers to the problems that impaired or disabled people have in interacting with their environment. A person may be handicapped in one situation and not in another e.g., A blind child who is a good singer may not be handicapped while singing on the stage where as a normal child who cannot sing may be handicapped if forced to sing on the stage. Hence, the disabled children should not be treated as handicapped and incapable but they have some special needs which has to be taken care of to enable them to function like normal children.

Similarly disabled children have some special Educational Needs due to their disability of one form or other in the educational setting. Those needs have to be attended to with some support services and equipments.

So that those children are enabled to take part in the class-room teaching along with their normal counterparts.

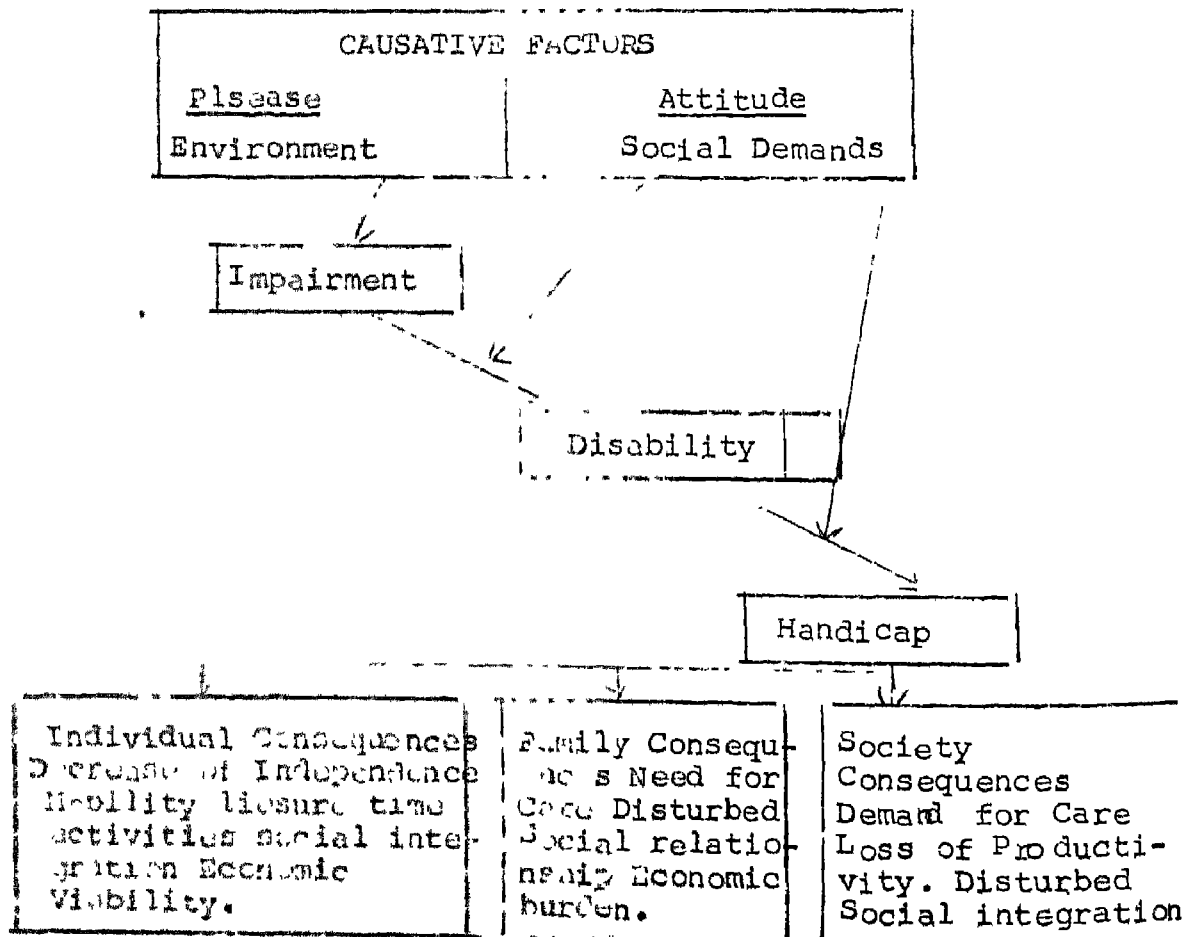
A host of factors are responsible for the handicap and the associated learning problems. Those factors may be categorised as:

A. Within child factors:

- i) Disability
- ii) Developmental delays.
- iii) Lack of self confidence.
- iv) Poor self concept.

1) WHO, has described the disability process and intervention level for handicapped children.

DISABILITY PROCESS



Disability often leads to various sensory and organic problems like speech and hearing impairment, visual impairment and other orthopaedic problems leading to various learning problems.

- II. Developmental Delays:- When growth and development is below the normal development of a particular age developmental delay is very common among the handicapped children, the area varies according to the disability - For deaf and dumb the speech is delayed, for partially sighted vision.
- III. The handicapped children usually lack self-confidence due to their disability and poor performance. The self-confidence is further brought down due to the negative attitude of the society - the parents, teachers, peers and others. This leads to poor achievement and academic failure.
- IV. The lack of self-confidence of those children is also responsible for poor self-concept and often results in inferiority complex which is also responsible for failure and poor academic achievement and consequently frustration in their life.

B. The second category is Socio-Cultural Factors:

The Socio-Cultural factors work like a vicious circle to produce handicap and learning problems.

- (i) Nutrition: Malnutrition is a Major cause of all types of handicaps.
- (ii) Socio Economic Status of the family: How income, illiteracy, large family, disease, malnutrition, lack of exposure and experience essential for better learning and academic achievements.

Residential background is also another socio-cultural factor which lead to handicaps. The people residing in villages and slums are usually uneducated and poor. Poverty and ignorance produces handicap and problem of learning.

The poor uneducated parents are usually either have negative attitude towards handicapped children, or over protect them because of their disabilities. Both lead to learning problems. Neglected child becomes limit or aggressive are usually maladjusted in the schools. Whereas over protected child becomes too much dependent and cannot progress in learning independently.

C. School and Classroom Factor:

1. Positive attitudes and acceptance of handicapped children by teachers and peers.
2. 2. Physical facilities and other supportive services are essential in order to cater to the needs of those children.
3. While teaching the handicapped children the teacher has to use:
  - a) Appropriate teaching materials and methodology
  - b) Provide freedom and encourage them to participate in the class.
  - c) Avoid failure and provide success experience through task analysis.
  - d) Follow multisensory approach.
4. Facility of resource room teaching should be made available for remedial teaching and teaching plus curriculum.

Absence of adequately trained teachers, teaching materials and method may lead to further handicap and educational problems for the handicapped children.



## Assessment and Recording of Special Needs:

### The Concept of Assessment:

Assessment is the process of determining and understanding the performance of students in their environment. Assessment involves considerably more than the administration of a test. In assessing handicapped students, it is necessary to look at the way they perform on a variety of tasks in a variety of settings.

Out reach or Case finding	Screening	Further Assessment	Early Intervention
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The assessment follows various steps:

1. Screening and identification :
2. Diagnosis: After initial screening the next step should be Diagnosis.

Diagnosis involves medical labeling or educational categorising according to etiology, case characteristics and/or proposed treatment.

3. Assessment: The third phase is the assessment. It involves the definition of the individuals and in some cases the family's strengths and weaknesses.

### The purpose of Assessment:

The main purpose of assessment is to gather representative data to be used in formulating remedial programmes for the child. The teacher's role in this process should be that of identifying the learning problems of a child, through informal tests and observation, developing strategies for educational programming based on the observation and tests and reassessing the child to find out progress.

### Who should assess ?

The persons involved in assessment are:

1. Parents who provide various relevant information about the child such as talents, interests, problems, birth history, health history, and also capable of carrying out remedial teaching programme with the help of teachers.
2. Teachers:  
Teacher identifies educational problems, plan educational programmes and implement in the classroom and train parents to practice them at home.
3. Psychologists, doctors, speech therapists ENT specialists and others as and when needed for differential diagnosis.

### Procedure for Assessment:

Assessment is done mainly by two different techniques:

Testing and Nontesting.

Testing Technique In testing technique different standardized tests are used. For example ....intelligence tests are used to measure intelligence, Interest inventories are used to identify interests,

Non testing technique includes: observation, Interview, Rating-scale, sociometry, anecdotal record.

### Functional Assessment:

The educational programme for handicapped children should base on accurate assessment data. The accuracy and effectiveness of assessment refers to the functional assessment. Before making the educational programme the knowledge of functional level of the child is very essential. The functional assessment in the following

areas are very essential for educational planning of handicapped children.

- A. Cognitive Development: It includes the process of attention, perception, memory verbal skills etc.
- B. Language Development refers to both Expressive as well as receptive language. Expressive language includes writing, speaking, Receptive language includes understanding or comprehension and reading.
- C. Self help skills or Activities for Daily living(ADL) are self feeding, self dressing, toilet training.
- D. Perceptual motor development: includes the child's gross motor skills, like crawling, walking, swimming, and fine motor skills like eye-hand coordination, writing, painting etc.
- E. Personal Social Development include the child's Social responses to adults and to other children.
- F. Play Development: includes playing with toys, with other children, games, dramatics.

Recording and Communication of Assessment:

Simple collection of information about the handicapped child is meaningless unless they are systematically organised. Therefore the information should be meaningfully kept in the form of cumulative Record Card (CRC) and Case-study.

Cummulative Record Card:

I. Identification Data

Name	Date of birth	Age	Sex
Name of School,	Grade	Section	
Present Address			

II. Family Data:

Permanent Address

Name	Education	Occupation	Income	Age
Father				
Mother				
Brother				
Sister				

III. Health Record.

IV. Attendance Record

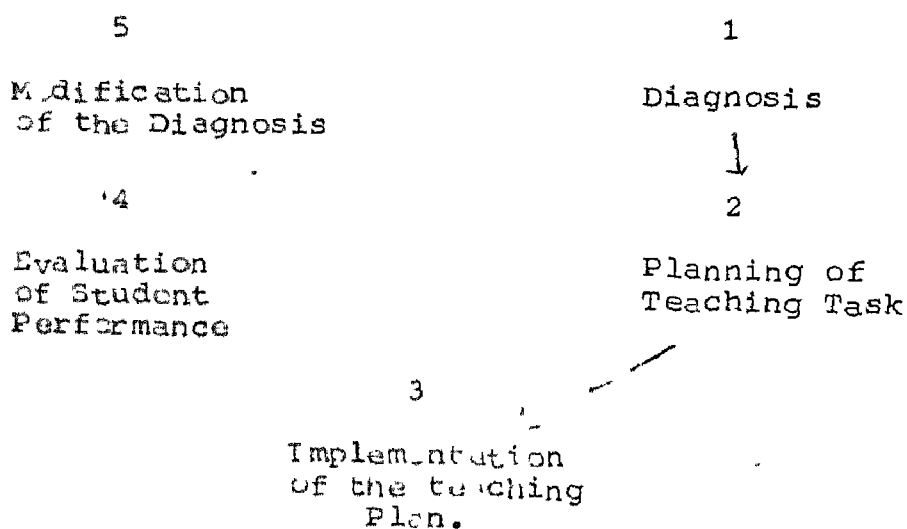
V. Achievement Record

VI. Psychological Test Record

VII. Special Award if any.

VIII. Special Problem if any.

Use of Assessment for Educational Provision  
And Teaching:



Preparation of Individualized Education Plan (IEP):

1. a statement of the student's present level of educational achievement in areas such as academic achievement, social adaptation, prevocational and vocational skills, psychomotor skills, and selfhelp skills.

2. a statement of annual goals that describes the educational performance to be achieved by the end of the school year under the child's individual education programme.
3. a statement of short-term instructional objectives, which must be measurable intermediate steps between the present level of educational performance and the annual goals.
4. a statement of specific educational services needed by the child, including a description of all special education and related services that are needed to meet the unique needs of the child, also including the types of physical education programme in which the child will participate.
5. the date when those services will be initiated and terminated.
6. a description of the extent to which the child will participate in regular education programme.
7. objectives criteria, evaluation procedures, and schedules for determining, on at least an annual basis, whether the short term instructional objectives are being achieved.

Long-Term Goals:

The first requirements for individualizing instruction is the establishment of long-term goals. The National Association of State Directors of Special Education (1976) suggests critical areas to consider in deciding where to start (Turnbull, et. al., 1979):

What are the priority parental concerns ?

What are the priority teacher concerns ?

What are the appropriate developmental sequences of tasks or behaviours that the child would be expected to move through ?

What behaviours appear to be the most modifiable, as determined from baseline assessment data including the child's strengths, weaknesses, and learning style ?

Are there any other crucial considerations one needs to make in selecting areas of educational need, such as any problem areas that are truly dangerous for the child, injurious to his or her health, or others ?

Hayes (1977) suggests the use of curricular areas when setting annual goals. This will enable the programme developers to focus on specific goals and insure that nothing relevant is omitted. She suggests the following partial topical list of content areas that might appear on a district programme planning form.

#### Reading Skills

- Readiness
- Comprehension
- Vocabulary
- Word attack

#### Prevocational Vocational Skills

- Job readiness
- Work experience

#### Language Arts Skills

- Writing
- Spelling
- Grammar
- Speech

Arithmetic Skills

Numeration  
Computation  
Application  
Measurement  
Time

Perceptual Motor Skills

Auditory and visual  
Sequencing  
Memory  
Acuity  
Discrimination  
Association  
Eye-hand coordination  
Fine motor development

Gross Motor Skills

Large motor activity  
General physical health  
Body localization  
directionality  
laterality.

Short-Term Objectives:

Within the determined goals, teachers usually have some freedom in specifying instructional objectives. What must we teach ? How will we know when we have taught it ? What materials and procedures will work best to teach what we wish to teach ? A meaningfully stated objective is one that succeeds in communicating to the reader the writer's instructional intent. Ambiguous terminology such as to know, to understand, to appreciate should be avoided. A behavioural objective is a statement that tells the student what to do, suggests how to do it, tells him what he should do it with and, at times suggests why he should do it. Behavioural objectives make teaching and learning more precise and efficient. e.g. John will recognise and correctly say 90 new sight words.

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### Task Analysis:

Task analysis makes mastery of a subject possible by identifying small learner steps, each of which can be mastered with adequate learner practice. In this process, each learning task (objective) is broken into component tasks, each of which must be mastered as a pre-requisite to mastery of the total task. To analyse a learning task, first state the terminal objective which tells what the learner will be able to do after instruction.

1. recognises all alphabets correctly 100% of the time.
2. knows the use of various vowels and their pronunciations.
3. recognises and correctly says 90 new sight words.

### Specifying Educational Services:

The IEP must include statements that specify services necessary to accomplish the goals and objectives identified. Services include speech therapy, physiotherapy, occupational therapy, counselling, and other related school functions.

### The Placement Committee:

It includes 1. A representative of the local education agency or one who is qualified to provide or supervise the provision of special education. 2. The teacher or teachers of the child. 3. The parents or guardian. 4. whenever appropriate, the child. The committee functions as an interdisciplinary team and

- a. collect information needed to make decisions.
- b. develop IEP.
- c. determine eligibility for special education placement and
- d. implementation of IEP.
- e. monitoring and evaluation IEP.



### Setting Timelines:

It is necessary to establish a time when services for the child will stand and when they are expected to end. The placement committee will also set dates on which it will review the child's progress towards the annual goals and the short-term objectives.

### Evaluating the Programme:

The effectiveness of the programme for each child is determined by the accomplishment of the goals and objectives outlined for him. The evaluation procedures should determine.

- a. if satisfactory progress toward the annual goals is being achieved.
- b. if the annual goals or short-term instructional objectives need revision.
- c. if services need to be altered and
- d. if the student can benefit from a less restrictive environment.

### Reporting and Evaluating the Child:

Reporting the child's progress is a very essential step. Noar (1972) observes that many pupil progress reports still place their emphasis almost entirely on the subjects in the curriculum rather than on the learner while many teachers and administrators reveal a greater concern about "how to report" than "what to report".

An individualized reporting form has strengths and advantages over traditional reporting forms:

- a. Both students and teachers are held accountable for learning.
- b. The teacher reports achievement in concrete terms rather than making value judgements based on subjective data.
- c. Teachers evaluate students in terms of their own abilities and are not forced to compare students with others.

Individualized evaluation may be defined as evaluation of an individual student's attainment and progress in relation to his own starting point. In IEP the teachers, administrators, parents and the child can examine the programme in terms of the child's progress and know where he started, where he went and how he got there.

#### Model Task Analysis:

Task analysis refers to the breaking up of a complex task into smaller and simpler steps so that it becomes easier to master. Teaching proceeds step by step.

#### Establishing Instructional Objectives/T.B.:

First the Terminal Behaviour (TB) has to be decided e.g., self-help skill: Eating with spoon.

Eating with spoon	- Terminal Behaviour		
	Time	Materials	Evaluation
Putting the filled spoon inside the mouth without help	- 5 days	- spoon/solid food/liquid food	Evaluation complete only solid food without drapping 100% of time.
Putting the filled spoon inside mouth with help	- 5 days	- spoon/solid food/liquid food.	-do-
Filling the spoon	- 4 days	-do-	Able to fill 100% of the time.
Hold the spoon	- 6 days	- Spoon	Hold properly
Identify spoon	- 2 days	- spoon knife fork	Identify spoon without fail

Teaching Arithmetic:

Teaching Languages:

#### Instructional Objectives:

Objectives are similar for both normal as well as handicapped children. But these objectives are to be broken down into smaller components for handicapped children.

Teaching:

Generally the classroom teaching is not adequate for the handicapped children. They need more practice and extra teaching which may not be possible on the part of the teacher. Hence he has to adopt various other means:

- The class should be divided into small groups. Each group should have a leader who will be entrusted with the reteaching the class work outside the class.
- sometimes pairing is also useful. The handicapped child is paired with a bright child who looks after his studies and help him in all respects.

Besides the parent and peer teaching the teacher may have teach the handicapped child individually for remediation of the difficulties which stands on their way of integration. Here the teacher has to prepare the IEP according to the individual need and problem of the child.

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## EDUCATION OF CHILDREN WITH DISABILITIES

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### BACKGROUND :

You might have come across some children with special needs in your classroom. These children have been learning problems and need a little extra help from you. Sometimes it may be easy to understand their problems, but sometimes it may not be possible and learning problems may persist despite your special help. You get an opportunity to observe all the children in the initial grades in both academic and non-academic situations. These observations can facilitate the early identification of disabled children. The teachers can perform this function successfully if they are aware of the specific manifestations of the disability in personal appearance and behaviour. These children have been learning problems because of factors either inherent in themselves or in their homes or in their schools.

The degrees of special needs arising out of a disability, along with educational implications, have been worked out in this module. The learning activities involve (a) individual activities of doing paper-pencil exercises and reading; (b) group work; and (c) discussion in plenary sessions. You will enjoy doing these exercises and many guidelines given in this module regarding simple identification procedures for various disabilities and their educational implications will ease your problems to a considerable extent.

## OBJECTIVES :

After completing the module, you are expected to :

1. State the various learning problems of the disable children and classify them under various categories
2. describe ambulation disabilities (that are cerebral and non-cerebral), special health problems, convulsive disorders, sensori-motor disabilities, mental retardation and learning disabilities.
3. identify the children with disabilities at initial level and refer them to specialised agencies for detailed investigation and assessment.
4. suggest the points of action foreducating children with disabilities in the least restrictive environment,
5. list the agencies and organizations that teachers may contact for assistance in meeting the educational needs of children with learning problems identified above; and
6. suggest follow-up action that you propose to take to meet the educational needs of such children in your classroom.

## LEARNING ACTIVITIES :

During your teaching career you must have come across some children who have been learning problems and do not perform well as expected by you inspite of your best efforts and special attention. Your colleagues must have also experienced the same problems with such children and might have possibly shared their views during some

formal or informal discussion. Why not think them over and list all the learning problems of such children on the basis of your experience. Also make an effort to find out the possible cause of such learning problems. You might have spoken to their parents, siblings, peers, other teachers and also directly to the children and this may help you to find out the possible causes of learning problems. You may further find out the causes and may be classified into various categories, i.e., Home, School, Child, or any other. Let us do some of these activities.

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Activity Sheet No.1 :      Learning Problems of the  
                                         Children in the classroom

---

I find the following learning problems of the children in my classroom :

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

---

Activity Sheet No.2      Possible causes of Learning Problems

---

I feel that the learning problems of my children are due to the following reasons :

1. \_\_\_\_\_
  2. \_\_\_\_\_
  3. \_\_\_\_\_
  4. \_\_\_\_\_
  5. \_\_\_\_\_
  6. \_\_\_\_\_
  7. \_\_\_\_\_
  8. \_\_\_\_\_
  9. \_\_\_\_\_
  10. \_\_\_\_\_
-

Activity Sheet No.3 Classification of Learning Problems

Category	Learning Problems Classified Under this Category
1. <u>Child</u>	1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____
2. <u>School</u>	1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____
3. <u>Home</u>	1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____



4. Any Other :
1. \_\_\_\_\_
  2. \_\_\_\_\_
  3. \_\_\_\_\_
  4. \_\_\_\_\_
  - '
  - '
  - '
  - '
  - '
  10. \_\_\_\_\_
- 

The unfavourable attitude of parents and siblings towards the child, the broken family, the marital disharmony between the parents, frequent transfer of father leading to adjustment problems to the child in different schools could be some of the factors related to learning environment at home. The biased attitude of the teacher, inadequate instruction and facilities could refer to the learning environment of the school. Any hearing/visual/special health/lowered intellectual level, etc., could be the problems of the child. We as teachers cannot afford to neglect these children and suitable measures are taken, many new problems will crop up and the learning problems will multiply. Such situations are likely to cause frustration due to constant failure and as a result, the children will ultimately drop out and develop behaviour problems which may be detrimental to their well-being.

The focus of this module is to deal with children with disabilities in regular schools.

You must have made various attempts to deal with the learning problems of your children. You must have made certain behavioural observations and used some

adaptation/adjustment in the curriculum and modifications in your teaching methods. You must have supplemented your verbal explanations by using various instructional devices/ audio-visual aids and showing practical demonstrations.

You may list the action taken by you so far and also think what further you can do about them.

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Activity Sheet No.4    Teacher's Approach to deal with  
Children with Disability

---

<u>Disability</u>	<u>Action taken so far</u>	<u>Further action required</u>
	1.	1.
	2.	2.
	3.	3.
	'	'
	'	'
	'	'
	'	'
	'	'
	'	'
	10.	10.

---

Once these children with disabilities are observed consistently in the classroom, they may be referred to specialized agencies. They may require some medical help and correction to overcome the disability, e.g., they may need hearing aid/lens/magnifying lens/crutches/ wheel chair/writing aid, etc.. The curative and corrective measures are accompanied by adjustment in curriculum and instruction with the objective of making the curriculum accessible to such children. Each area of disability has been discussed briefly within this specific framework and some important guidelines for identification of

disability and education of children have been highlighted.

### CHILDREN WITH LOCOMOTOR DISABILITY

Children with physical disabilities are those whose physical or health problems result in an impairment of normal interaction with society to the extent that specialized services and programmes are required for them. They may have locomotor problems, i.e., problems related to bones, joints and muscles. As a result, the mobility of limbs and extremities gets restricted. They may find difficulty in moving around and some other problems in their home and school environment but they are capable of living like other children. For example, a child having certain deformity in fingers may not be able to have proper grip of the pencil and experience a problem in writing. Some children having postural defects may have certain difficulties in performing some learning activities due to fatigue. Some normal children may also make fun of these disabled children due to lack of awareness and the disabled children may therefore, face adjustment problems.

Like children with other disabilities, the physically disabled are typically grouped in categories. We will discuss children who are grouped according to their abilities to function in a particular area and children who are grouped according to their medical diagnosis. The functional categories are ambulation, which refers to the child's ability to move from place to place, and vitality which refers to the child's health and ability to sustain life. In the medical category,

we will discuss convulsive disorders. We will also discuss architectural barriers, and devices designed to assist the physically disabled.

### Terminology Based on Anatomy :

Areas of the body are frequently designated with prefixes, whereas suffixes are used to designate conditions of the body. For example, the prefix "hemi" refers to one side of the body, whereas the suffix "plegia" refers to paralysis or the inability to move. Thus, the term "hemiplegia" refers to the paralysis of one side of the body.

Other common terms are listed here :

Term	Body Area Involved
Monoplegia	One limb.
Hemiplegia	Both limbs on the same side of the body.
Paraplegia	The lower limbs.
Diplegia	All four limbs, but the lower limbs more seriously than the upper.
Triplegia	Three limbs.
Quadriplegia	All four limbs
Double Hemiplegia	Upper limbs more seriously affected than the lower.
Anterior	Front.
Posterior	Back.
Medial	Nearest the middle.
Lateral	Farthest from the middle.
Superior	Nearer to the head.
Inferior	Farther from the head.

There are a number of other terms used to describe the physically disabled. The terms "proximodistal" and "Cephalocaudal" are used to describe the growth of children. The term proximodistal means that the development proceeds in the outward direction. That is, the central parts of the body mature earlier than the peripheral parts. For example, the trunk and shoulders develop first and then the arms and fingers begin their real work. The term "Cephalocaudal" means head-to-foot direction of development. The head starts growing at a very rapid rate almost immediately after conception. A fetus's head is well developed before his legs assume their final form; arm buds appear before leg buds. This progressive differential growth—first the head, then the trunk, then the legs—has been designated by the term Cephalocaudal (head-to-foot).

#### AMBULATION DISABILITIES :

Physical disabilities that prevent a child from entering a building, travelling easily from room to room, using toilet facilities, moving from one floor to another, or travelling in a crowded half-way all cause serious problems. It is this type of impairment that has restricted the physically disabled to special schools and modified self-contained classrooms. We will briefly describe the ambulation disabilities which are cerebral in origin and which are caused by noncerebral factors.

#### Cerebral Palsy :

Cerebral Palsy (C.P) is an ambulation disability that is cerebral in origin. C.P. is caused by damage to the brain. It is characterized by impaired motor

coordination. It is a non-progressive disorder that affects gross and fine motor coordination. The other disorders often associated with CP are communication disorders, sensory disorders, convulsive disorders, intellectual deficits, etc.. There are several types of cerebral palsy including spastic, athetoid, ataxia, rigidity, tremor, and mixed.

C.P. can cause a wide variety of problems, some very serious, some relatively easy to adapt to. Those who suffer from it can be expected to attend school in regular classrooms, in classes for the orthopaedically handicapped, or in programmes for the severely or multiply handicapped. These children may need physical, occupational, and speech therapy. Some will need minimal extra attention, whereas others will need a great deal of assistance to develop to their full potential.

AMBULATION DISABILITIES (Caused by Noncerebral Factors) :

The other disorders that affect ambulation are muscular dystrophy, spinal muscular atrophy, poliomyelitis, arthrogryphosis, arthritides, osteogenesis imperfecta, spinal cord injuries and other musculoskeletal disorders. Muscular dystrophy is a progressive weakening and degeneration of the voluntary muscles. Spinal muscular atrophy affects the spinal cord and results in progressive degeneration of the motor nerve cells. Poliomyelitis (infantile paralysis) is a viral infection that affects or destroys the cells in the spinal cord. When these nerve cells are destroyed, the muscles that they serve eventually die or become paralyzed. The paralysis may affect the entire body or just parts of the entire body. Many

people with polio are bed-ridden, confined to wheen chairs, or dependent on braces and crutches for ambulation. Spina bifida is a congenital defect caused by the failure of the bones of the spine to grow together completely. Osteogenesis imperfecta is also known as brittle bone disease. Arthrogryphosis is a congenital disorder characterized by stiff joints and weak muscles. The first signs of the disease Arthritis are general fatigue, stiffness and aching of the joints as they swell and become tender. The fine common types of arthritis are : Rheumatoid, osteoarthritis, ankylosing spondylitis, rheumatic fever and gout.

A problem in one part of the body frequently causes problems in another part. Children who have spina bifida, muscular disorders, or other disorders, frequently have back problems as well. Muscles that pull too hard or that are unequally balanced can cause such disorders as scoliosis, lordosis, and kyphosis. Inadequate muscle tension sometimes results in the complete collapse of the skeletal system. A club foot is a disorder that can appear by itself or in conjunction with another problem. Children with this disorder are born with one or both feet turned down and in. Amputation is another important disability. It can be partial or complete. Most amputations are necessary because of accidents but some are required by life-threatening physiological disorders and diseases. Limbs may also be missing as the result of disruptions in the early fetal development of limbs. This sometimes occurs randomly but it can be caused by drugs such as thalidomide if taken by the pregnant woman particularly during the first trimester of pregnancy.

The children with locomotor disabilities can be easily identified with the help of the following checklist:

Identification Checklist for Orthopaedically Disabled Children

1. Observable deformity in fingers, legs, hands, waist (spine), neck, etc.
2. Frequently complains of pains in the joints or show signs of pain during physical exercise.
3. Walks awkwardly with jerks/limb.
4. Has amputated limbs.
5. Falls frequently.
6. Has difficulty in sitting, standing and walking.
7. Has difficulty to have a proper grip of the pencil.
8. Involuntary movements of limbs.
9. Poor motor control or coordination. The child is unable to coordinate two or more muscle groups for performing any task.
10. Moves in a shaky fashion.
11. Has difficulty in holding objects, picking up and putting them on the table or on the ground.

The teacher must assist the parents of such children to procure aids for mobility and proper functioning through District Rehabilitation Centres, Vocational Rehabilitation Centres, etc..

DISABILITIES THAT AFFECT VITALITY

Some of the disabilities that can affect the vitality of children are congenital heart defects, cystic fibrosis, diabetes and asthma. Children with disabilities that affect vitality are frequently placed in special classes or programmes. Although all these disorders are



life - threatening, some are more dangerous than others. All children with these types of disorders will need special assistance from a primary care worker or teacher, and special educational, social and vocational training as well.

Children with mild health problems come under the educable IED group. Their health problems do not interfere with educational planning. But precautions need to be taken in terms of getting adequate medical check ups and support. There are children with severe health problems who cannot be integrated in regular schools. The severity of their health problems interfere with educational planning. Such children require constant medical attention and may not be able to participate in the academic and non-academic activities of general classrooms. These children require rest very often as they get severely tired after 10-15 minutes of studies. Such children need to be educated either in special classes in regular schools or be given homebound/hospital bound instruction..

Children with special health problems can be identified by the teacher with the help of following check list.

Children with Special Health Problems :  
Identification Checklist

1. Shortness of breath.
2. Blue appearance of skin.
3. Low tolerance of exercise.
4. Frequent coughing.
5. Have an increased appetite.
6. Have low physical stamina and gets easily tired.

7. Takes snacks, sweet biscuits during class time.
8. Excessively restless.
9. Extremely slow and inactive.
10. Complains of frequent pains in x arms, legs, joints, chest, etc.
11. Extremely inattentive.
12. Has slight temperature most of the time.
13. Faints frequently.
14. Gets irritated, anger very quickly
15. Frequently throws temper-tantrums.
16. Exhibit destructive and aggressive tendencies without proper reason.
17. Frequent urination, abnormal thirst, extreme hunger, rapid loss of weight, sleepiness, weakness.
18. Frequent skin infections such as itching/boils,etc.
19. Breathes noisily and perspires often.
20. Allergic to dust and feels difficulty in breathing.

#### CONVULSIVE DISORDERS :

Epilepsy and seizures are categorised under the general heading of convulsive disorders. Epilepsy is caused by uncontrolled electrical discharges in the brain and can usually be controlled with medication. Epilepsy is treated as a special~~ize~~ health problem. The three primary types of seizures that result from epilepsy are grand mal, petit mal, and psychomotor seizures.

You may protect the child by cradling it in your hands and do not restrain child movement, however. The teacher may notice the following symptoms of this problem :

1. The child shakes violently as if in the grip of hysteria.
2. The child becomes unconscious.

3. He falls and moves arms and legs violently.
4. He may become pale and there is constant recurrence of fits.
5. He may unnecessarily go on rubbing of arms and body parts.
6. There is twitching of eyelids.
7. He starts taking off clothes.

EDUCATIONAL IMPLICATIONS :

Many types of assistive and adaptive equipment have been developed to help physically disabled children in their day-to-day existence, travel, adaptive to their environment, and communication. Prosthetic devices such as artificial arms and legs are used to replace missing body parts. Orthotic devices are attachments, such as a leg brace or a splint that assist a body function.

Depending upon the severity of the child's physical disability/special health problem and the extent to which he requires special attention, the child might be placed in any of the educational environment which is least restrictive. The great majority of the physically disabled children can be educated in regular classrooms with the use of assistive equipment and special teaching aids. Before recommending the placement of orthopaedically disabled children in the regular classroom, it is necessary to consider that their medical, travel, transfer and lifting, self-care, and positioning needs can all be appropriately met in the regular classroom.

The first and foremost thing is that the teacher should create an atmosphere of acceptance of a disabled child in the classroom. He should be involved in all learning activities as an equal partner with his peers.

The teacher should encourage peer interaction on the basis of mutual respect, whole-hearted support and cooperation. This can be facilitated by telling the normal children the implications of physical disability.

Necessary seating arrangements for the disabled children in the front side wall facilitate free movement for other children in the classroom. Ramping arrangements may also be necessary for children with wheel chairs. They should be given adequate opportunities for participation in games, physical and recreational activities at their level and functioning. Efforts may be made to plan such activities for normal and disabled children as a joint venture.

In the classroom you must have experienced of dealing with a child with locomotor disability and adjusted your teaching and classroom arrangement for children with problems of (a) movement from one place to another, (b) posture arising out of muscle tension, and (c) muscle rigidity interfering with their academic learning/skills.

#### CHILDREN WITH SPEECH AND HEARING DISORDERS :

Communication is disordered when it deviates from accepted norms such that it calls attention to itself, interferes with the message, or distress the speaker or listener. Speech results from many organs of the body working cooperatively to produce sound. The three major types of sounds in our language are - vowels, diphthongs, and consonants. Speech and language are developmental processes acquired over time. Language disorders the most complex and most serious of all communication.

problems. Most speech disorders involve problems with articulation, voice or fluency. Speech language pathologists are the professionals to deal with communication disorders. The classroom teacher has an important role in the early identification of communication disorders. The following checklist summarizes behaviours and characteristics of children with speech disorders :

- (a) Does the child have any observable deformity of the speech organs ?
- (b) Does the child make frequent natural breaks while speaking words and phrases ?
- (c) Does the child frequently mispronounce despite corrective efforts made by the teacher ?
- (d) Does the child hesitate in participating in oral group activities ?

Gains made in therapy sessions must be reinforced in the home and classroom for speech therapy to be effective. A child listens a lot before he can speak well. Our ears are the doorways to the world of communication. It is the listening child who learns to say his first words by the age of 12 months. The professionals who evaluate hearing by means of audiometric testing are called audiologists. Hearing loss can affect speech and language development, and educational, vocational, social, and emotional adjustment. Depending upon whether hearing loss is mild, moderate, severe or profound, the hearing aid is to be fitted. Hearing aids make sound louder but do not make sounds clearer. Auditory training is important for listening. For educational purposes, children with hearing disorders are classified as either hard of hearing or deaf. The philosophy of

total communication makes use of both oral and manual procedures to teach deaf children.

Regular class teachers should be able to recognize signs that may indicate hearing disorders so that they can refer children for hearing evaluations. They can help keep children with hearing disorders in the regular classroom in many ways. A classroom teacher should watch for the following signs of possible hearing loss :

IDENTIFICATION CHECKLIST :

1. Does your child have problems paying attention in school ?
2. Does your child favour one ear for listening purposes ?
3. Does he have problems to hear when you speak to him from behind ?
4. Do you think your child can hear, but only when he wants to hear ?
5. Do you think your child speaks too loudly or too softly ?
6. Does he exhibit voice problem and mispronunciation ?
7. Does he tune the Radio/T.V. too loud ?
8. Does your child answer questions irrelevantly ?
9. Does your child keep away from age mates ?
10. Is your child unable to respond when you call from other room ?
11. Does your child understand only after few repetitions ?
12. Does the child focus on the speaker's face while listening to and understanding speech ?
13. Does the child ask for help from fellow students in taking notes . when the teacher gives verbal explanation of the lessons in the classroom ?

14. Does the child complain of frequent earaches or ear discharge ?
15. Does the child scratch his ear frequently ?
16. Does the child have any observable deformity of the ear ?

If one or more of these symptoms are present in your child, you need to observe the child and see if the behaviour is consistent in similar situations. If the behaviour is found consistent, your child needs professional help from an audiologist.

#### EDUCATIONAL IMPLICATIONS :

The treatment and educational requirements of a school - age child will depend on the nature and severity of the child's hearing loss. There are many children with mild to moderate hearing loss in regular schools. The following suggestions may help the teacher working with them effectively :

1. If the teacher generally teaches from the front of the room, the hard-of-hearing child should be seated in the front, preferably slightly off center towards the windows. This allows the child to hear better and read lips more effectively. Light should be directed towards the teacher's face and away from the speech reader's eyes.
2. If the hearing impairment involves only one ear, or if the impairment is greater in one ear than the other, the child should be seated in the front corner seat such that his better ear is towards the teacher.

3. The child should be encouraged to watch the face of the teacher whenever she is talking to the child. The teacher should speak at the speech reader's eye level whenever possible.
4. The teacher should pay attention to the posture of the hearing impaired child's head. The habits of extending the head or twisting the neck to hear better can become firmly fixed.
5. The teacher should not speak loudly or use exaggerated lip movements when speaking to the hard of hearing child.
6. The hearing impaired child should be encouraged to turn around to watch the faces of children who are reciting.
7. An interest in music and participation in vocal music should be encountered.
8. The teacher should be able to assist the child who wears a hearing aid in the classroom.
9. The hard-of-hearing child should participate actively in all plays and other activities which involve speech.
10. Teachers should watch carefully for illness in hearing impaired children. Colds, influenza, throat and nose infections, tonsillitis, and other ailments should be treated as soon as possible.

Under the centrally sponsored scheme on Integrated Education of Disabled Children revised 1987, there is more emphasis on the integration of mild and moderate



cases of hearing impaired. The integration of severe and profound cases has been recommended after preparation in preacademic skills.

#### CHILDREN WITH VISUAL IMPAIRMENT :

The basic function of eye is to collect visual information from the environment and transmit it to the brain. We collect nearly 80-90% of information through our eyes. This input is denied to the visually impaired. Visually impaired children (VIC) are classified as either blind or partially sighted. The blind children cannot read the usual text and need braille, which is read through touch. These children can be easily identified. The vision of some of the partially sighted children can be corrected through a lens, some require magnifying glasses to read and some can read only large print of 18 point and above. Some children have a restricted field of vision.

Most visually impaired children are not totally blind. Approximately two-thirds of all visually impaired children have some remaining vision. A majority of cases of blindness are either preventable or curable.

Much use of blackboard and reading from the books is required for academic learning. Visual impairment leads to several learning problems. Such children can be easily identified by the teacher with the help of the following checklist.

#### Identification of Checklist for the Visually Impaired :

1. Observable deformity in the eye(s).
2. Frequently reddening of eyes.

3. Rubs eyes excessively.
4. Holds objects and books close to his eyes.
5. Covers one eye and tilts the head forward.
6. Blinks eyes frequently.
7. Squints eyes.
8. Asks other children for help while taking notes from the blackboard.
9. Complains about headache following close eye work.
10. Watery eyes.
11. Pupils of the eyes are of different sizes.
12. Seems very sensitive to light.
13. Becomes inattentive.
14. Body becomes tense while trying to distinguish the distance objects.
15. Takes false steps while walking.

If a child displays some of this behaviour, the teacher may refer him to PHC or hospital for eye check-up and medical treatment.

#### EDUCATIONAL IMPLICATIONS :

Visually Impaired Children tend to lag behind their seeing peers in school achievement. Once a child has been placed in the most suitable educational environment, the educator must consider the curriculum that will best meet his-her needs.

Children with visual problems are usually taught the same sequence of subjects as children with normal vision because they need to master the same basic skills. However, unlike sighted children they will need to be taught special skills in addition to such as Orientation and mobility, Daily living skills, Braille

Reading and Writing, etc.. Although the responsibility for implementation, the total curriculum plan lies with the regular teacher, the assistance of a specially trained teacher will be necessary to teach these special skills to VIC. The media through which VIC obtain information are tactile, auditory, and visual.

Those involved in educational planning should remain flexible in their approach to placement. It is important to remember that the most appropriate, least restrictive environment for VIC is the one in which they would normally be enrolled if they were not visually impaired. They should be educated to the greatest extent possible with sighted children. In considering basic instructional methods for visually impaired children, it is important to remember that many of the techniques and strategies that are effective with seeing children are also appropriate for the visually impaired. VIC do have some unique instructional needs and will require help from specially trained teachers of the visually impaired in some academic areas.

Here are some guidelines for the teacher to help VIC in integrated setting.

1. Make the VIC seated in front so that they may be able to read from the blackboard without much difficulty.
2. He should write on the black board with bold and clear letters and speak loudly whatever he writes.
3. He should supply books with large prints.  
(18 points or more) to cater to the needs of VIC.
4. He should supply hand lens, magnifying glasses, etc., from DRCs/hospitals for children whose correction is beyond the spectacle lens.

5. VIC may be given training in listening with comprehension.
6. Provide opportunities for participation in physical education games.
7. Give more auditory and tactile aids to compensate for visual loss.
8. Arrange to provide audio-cassettes for VIC from SIE/SCERT/CIET/NCERT/NIVH, etc.
9. Provide more verbal cues while explaining the concept in the class.
10. Provide compensatory aids like cane for mobility, braille slate and stylus for learning to read and write braille, abacus to learn numerical concepts and brailler to cope up with speed of taking dictation in classroom.

#### CHILDREN WITH LOW MENTAL ABILITY :

Mental Retardation is impaired mental ability. To be diagnosed as mentally retarded, a person must be significantly subaverage in both intelligence and adaptive behaviour. A retarded child learns more slowly; at maturity his capacity to understand will be less than normal. He finds difficulty in learning, social adjustment and economic productivity.

The classification system based on severity of systems, which identifies children as mildly retarded (Eduable Mentally Retarded), moderately retarded (Trainable Mentally Retarded), and severely/profoundly retarded (Custodial Mentally Retarded), is the system of great utility. The performance of mentally retarded children is affected in the class by their delayed development. The observable behaviours that will help the teacher in identifying such children are given in the following check list.

Identification Checklist for the Mentally Retarded :

1. Consistent low academic achievement.
2. Has short attention span.
3. Has a poor self-image.
4. Lacks self-confidence.
5. Has restricted communication.
6. Often inattentive and easily distracted.
7. Seeks immediate reward.
8. Has poor muscular coordination.
9. Seeks repetition and practice.
10. Displays fear of failure.
11. Shows excessive reliance on presentation of concrete objects.
12. Has a problem in understanding instructions/ abstract things.
13. Does not take initiative in group activities.
14. Faces difficulty in doing things for himself.

Educational Implications :

It is best to regard retarded people as "developing individuals" who are capable of growth and development that can lead to favourable changes in their behaviour. With early and proper teaching, with suitable schools and vocational training; the mildly retarded, who constitute 75 per cent of the retarded population, can learn to be fairly self-supporting adults. These EMR children with good adaptive behaviour skills can often be successfully integrated into regular classes. TMR children are usually educated in special classes and can only be integrated in non-academic areas with adequate preparation. They can be trained in vocational

areas and daily living skills. The retarded benefit from all types of attention and training. Even the S/PR can improve. The CMR cases need help in developing daily living skills and can be educated in special institutions. They cannot be integrated due to poor adaptive behaviour.

The following guidelines for adaptation of instructional material and methodology for the EMR may be useful for the teacher,

1. Provide concrete experiences for these children.
2. Provide direct experiences of the environment by field trips.
3. Provide more repetition and practice.
4. Present the learning task in small steps.
5. Draw their attention to important points of the learning task.
6. Ask simple questions to give them a sense of accomplishment.
7. Provide immediate reward as and when the child gives correct response.
8. Provide training in communication skills through practice in social situations.
9. Arrange situations so that they may participate along with normal peers.
10. Transact the curriculum through simple and interesting experiences.
11. Ensure mastery of basic skills in the three Rs.
12. Organize learning activities through games, physical activities and music which form a permanent impression on their minds.
13. Arrange activities requiring eye-hand coordination

14. Arrange activities which help in developing sound discrimination.
15. Utilize advantageously a situation chosen by the child himself for learning a particular skill.
16. Provide all necessary aids and supportive materials to learn a concept adequately.

CHILDREN WITH LEARNING DISABILITIES :

Learning Disabled (LD) have difficulties in learning to read, write, speak, comprehend, do arithmetic spell the words, etc.. The basic problem in learning - disabled children is an incapacity to learn through normal and conventional channels. Such children are said to have a learning disability which arises out of the problems in psychological processes like perception and memory.

From a psychometric stand point, a learning disability can be operationally defined as a significant discrepancy between a child's actual level of achievement and the achievement expected of a child at his/her chronological age. The causes of learning disabilities are very poorly understood, but they could include such disparate factors as maldevelopment of the brain and poor teaching. The main characteristics of LD children are :

1. Attention difficulty.
2. Perceptual problems.
3. Memory problems.
4. Language deficits.
5. Poor motivation/attitude.

6. Poor sound/symbol association.
7. Transfer difficulties.

In order to be called a "characteristic" difficulties that children with learning disabilities have must be :

- (a) Observed consistently over time,
- (b) resistant to simple remedial teaching methods,
- (c) accompanied by a significant gap between achievement and ability.

Identification Checklist for the Learning Disabled :

1. Has difficulty in telling the time, remembering the order of days, months and mathematical tables
2. Is always untidy and late in submitting homework and coming to class.
3. Is so excited that he is unable to complete and task.
4. Finds in difficult to organize his work, uses trial and error approach, logical and sequential approach missing.
5. Seems dull and slow in responding to others.
6. Gets easily distracted even by slight disturbance.
7. Cannot correctly recall oral instructions when asked to repeat them.
8. Confuses between left and right.
9. Reads words backwards, puts letters in wrong order, shortens words, misreads words, omits letters, adds letters, etc..
10. Difficulty in academic subjects, difficulty may be only in one subject or a combination of subjects.



EDUCATIONAL IMPLICATIONS :

Learning disabilities and behaviour disorders may occur in part because our schools are unable to provide enough high quality individual instruction. The regular classroom teacher should become skilled through in-service training in managing learning disabilities within the mainstream of the school. It is very difficult to identify the children with a mild degree of learning disability at pre-school level. They can be identified early if the parents and teachers plan their instructional material systematically from the very beginning. The guidelines given below will help the teacher to adapt instructional material and methodology to the needs of these children.

1. For correcting learning disabilities the child should be given exercises to identify a particular letter or number which is difficult for him to recognize, write or speak.
2. Letters or words which resemble each other, either visually or auditorily, should not be taught together.
3. Sensory experiences should be provided to copy letters correctly and to verbalize the differences. For example, saw and was; no and on.
4. Learning tasks should be divided into small groups so that the child feels that he has mastered the task.
5. The initial part of the remedial session should involve activities on which the child can achieve 80-90% success. A sense of success will act as a motivator.
6. Encourage the child to perceive the words as a whole rather than through identification of individual letters.

7. Ensure that the child is continually busy and interested in the task during the teaching session.

AN OVERVIEW :

There are children with some impairment who can be educated in general schools with the existing facilities by general teachers without any formal preparation.

There are children with certain impairments who can be educated in general schools with some preparation and slight modifications/adjustments/adaptations in teaching methods and materials. There are also a limited number of children with disabilities, who will require comparative prolonged formal preparation before they can be educated in general schools.

Children with different types and levels of disability will require educational provision matched with their needs. The educational provision may be considered on the basis of the extent of their participation in educational activities in common with other children. Targets of Universalization of Primary Education (UPE) can be achieved only through integrated education. Integrated Education is not an additional burden. Planned integrated education helps in universal enrolment and retention. Children with mild and moderate disabilities can be integrated in general schools. Adequate arrangements are to be made to give vocational training to the disabled. Teacher training programmes need to be reoriented in particular for teachers of primary classes, to deal with the special difficulties of handicapped children. Teachers should keep in touch with developments in the reeducation of the disabled. Parents and the society need your help in developing disabled children as a human resource just like other children.

## EARLY IDENTIFICATION OF EDUCATIONAL PROBLEMS

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The fundamental purpose of a psycho-educational assessment is to gather representative data to use in formulating remedial programmes for the child. The teacher's role in this process should be that of identifying the learning problems of a child, through informal tests and observation, developing strategies for educational programming based on the observation and tests and reassessing the child to find out progress. There are a few principles/steps to be followed for the systematic assessment of the child.

### Principles of Assessment :

An ideal psycho-educational assessment should comprise the following four steps (Smith, 1974) : (i) Identification procedures; (ii) Evaluation techniques; (iii) Development of an educational plan and (iv) Implementation of teaching strategies.

### Diagnostic Teaching Flow chart (SMITH)

- |                  |                                                                                                                                                                                                                      |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Level I<br>step  | Children with suspected education problems, i.e., those that exceed the usual expertise of most regular class teachers, are identified as potential high risk youngsters and referred to some type of diagnostician. |
| Level II<br>step | Evaluation of the child's educationally relevant characteristics and the prominent environmental traits that may in some way be associated with obvious or suspected educational problems.                           |

- Level III      Development of a comprehensive educational  
step            plan for the child - one that is based on diagnostic data that have been gathered about him and about his environment.
- Level IV       Assignment of the child into the most suitable  
step            instructional environment as suggested by the educational plan which was generated at Level III.

Identification :

As mentioned earlier, this step involves general screening to spot the children with learning problems. Individual teachers or parental referrals are also considered for identifying children with problems in learning.

Evaluation :

In this phase, more intensive assessment is carried out using specific evaluation tools including psychological and educational tests. By this, the specific problems of the child are noted. Ideally, this step in assessment is carried out not in one sitting but through a few days, under different circumstances.

Development of Teaching Plan :

After gathering assessment data, a teaching plan is developed in this stage based on the analysis of the data collected. It is very important that care be taken in using the assessment data appropriately for forming the educational programme of the child with long term goals and short term objectives.

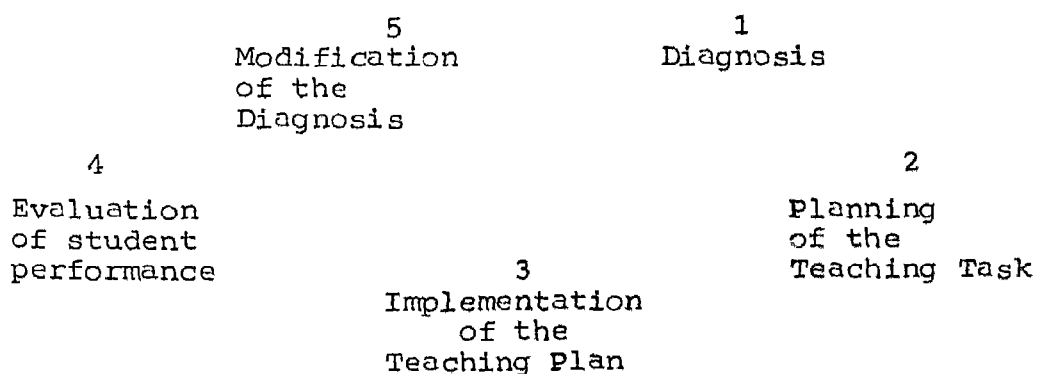
Implementation :

The plan developed in the earlier stage is put into practice in this step. Children who have minimal learning problems might benefit from the resource

room setting for implementing the teaching plan. This applied to borderline, EMR and learning disabled children. On the other hand, children with severe learning problems will need special class setting for the academic work. The non-academic activities can be programmed with normal children which will lead to social integration. However, the primary emphasis in the present phase should be on the remedial strategies for helping children and to integrate them with normal children to the maximum extent possible.

After implementation, the children need to be reassessed to check for the progress and the success or failure of the plan that is developed and implemented. Therefore, the teacher must have a periodic assessment schedule, which is also called as continuous assessment. For this purpose, Janet Lerner has developed a cycle called Clinical Teaching cycle. As we see in the diagram, assessment is not an end in itself but is continuous and on-going.

DIAGRAM OF THE CLINICAL TEACHING CYCLE



Characteristics of Accurate Assessment :

An accurate psycho-educational assessment should give the following details regarding the child :

1. Should identify the subject's learning characteristics, style of learning and strength and weaknesses.

2. Should help in understanding the personality dynamics which leads to the setting up educational programme.
3. Should precisely classify the child as mentally retarded, learning disabled, emotionally disturbed and so on.
1. Should aid in homogenous grouping.
5. Should assess the progress and prognosis.
6. Should facilitate identification of educational readiness and appropriate placement.
7. The administration and scoring should not be too complicated to be used by the teacher.

Guidelines for Accurate Assessment :

1. Each assessment technique has distinct advantages and disadvantages when used with different types of children in different situations and therefore, the best method is to employ a variety of assessment techniques.
2. As teacher has a major role~~x~~ in the assessment process there are certain desirable traits for the teachers. These are emotional health and stability; good sense of humour; flexibility; ability to relate well to people; orientation of test results in problem solving and sound theoretical orientation.
3. The assessment must be done periodically as ~~x~~ such continuous assessment results provide the teacher with evidence of successful instructions or faulty learning.
4. As the primary purpose of educational assessment is to directly use the results in teaching programmes, selection of inappropriate tests must be avoided, results must not be over generalized and care must be taken in interpreting test results.

5. All the factors related to the child's learning problems such as physical, psychological, social socio-economic, cultural and environmental factors must be taken into account while assessing or taking the help of related services. This helps the teacher in recognizing the interfering factors in the home and neighbourhood and plan for the child accordingly.
6. Certain precautions must be taken while administering psycho-educational assessment. This includes, (a) training of the 'one' who assesses; (b) avoiding misinterpretation of test results; (c) confidential data of the child and family must not be used inappropriately; (d) the child's attitude towards testing such as anxiety, submission, resentment and perplexity must be considered; (e) using the same test too often for all children must be avoided.

As far as possible, tests developed for Indian children must be used.





PSYCHO-EDUCATIONAL CHARACTERISTICS OF M.R. AND  
TEACHING, READING, WRITING AND ARITHMETIC TO THOSE CHILDREN

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INTRODUCTION:

Psycho-educational characteristics refers to those characteristics, essential for education and effective learning. A child begins to learn at the time of birth and perhaps even before. Learning occupies a central position in shaping human behaviour. Acquisition, retention or memory, transfer or generalisation, recognition and relearning are some of the important determinants of learning. Readiness for learning, motivation to learn, reinforcement, exercise, distributed practice, active participation and over-learning are some of the important methodological guidelines of learning process for mentally retarded children.

ACQUISITION:

Mentally retarded children have problems in learning and acquisition because of varied reasons. These children lack motivation to learn and therefore they cannot engage themselves effectively in the learning task. Mentally retarded children have very short attention span and therefore they are easily distracted. They are also hyperactive and cannot concentrate on the task for long time. Thus they require very long time to have mastery over any learning activity.

However acquisition can be facilitated by repetitions, drill and practices adopting multi-sensori approach. Hundred per cent mastery and over

learning are very essential for effective learning by mentally retarded children.

#### RETENTION AND MEMORY:

The dictum that memory is the foundation of learning and also more prominent among sub-normal than normal subjects. Brown (1955, 1958) postulated that every item presented leaves a trace and it swiftly decays unless rehearsed. The number of items that could be rehearsed or registered are limited to seven items at a time for normals (Miller, 1956). According to him retention is a function of the number of 'chunks'. The memory involves input, registration, storage, organisation and retrieval which can be observed by the different methods of reproduction such as recall, recognition, relearning and reconstruction.

#### REACTION TO FAILURE:

Mentally retarded children as such have poor motivation for learning. They also suffer from inferiority complex. Hence, they are very sensitive to failure. Because of their poor mental ability they experience failure very often. Frequent failure experience may result in various psychological and emotional problems in case of mentally retarded children. The problems are:

- a. Poor motivation and lack of interest in learning.
- b. Inferiority complex.
- c. Avoidance of learning.
- d. Poor self-concept.
- e. Lack of self-confidence.

REMEDIES:

The teachers should take extra care to avoid failure experiences in case of mentally retarded children. The teacher may adopt the following guidelines:

1. Follow the principle of simple to complex while teaching.
2. Adopt task analysis to make the task simple.
3. Follow multisensori approach for better understanding and retention.

All learning is based on memory is indisputable. In its broadest sense, the process of memory is commonly divided into three phases :

- a. The phase of acquisition or learning phase.
- b. The phase of retention or retaining phase.
- c. The phase of reproduction or recognition or testing phase (Ingham,1952).

Baddley and Patterson (1971) stated that a human being without a memory would be like a vegetable; not only he cannot understand or communicate with the world around him but also without memory he cannot even adequately perceive the world. The mentally retarded appear to have a learning deficit (sloer learning and poorer short-term retention than normals, Ellis, 1963): it is important to point out that the mentally retarded can learn a variety of responses almost as well as normals of equivalent chronological age. There is

little available evidence of an appreciable deficit in long-term retention when the mentally retarded are compared with normals, provided the two are matched on original learning (Denny, 1964). Hence it can be concluded that with regard to long-term memory the mentally subnormal children do not show any deficit. This can be attributed to the scope of total mastery of the task, overlearning and better consolidation of brain traces.

As far as short-term memory is concerned the investigators have largely confined their experiments to group comparisons between retardates and normals (Jonson, 1965) where the results are not consistent. Ellis (1963) has put forward a Stimulus-Trace Theory regarding short-term memory to account for greater decay in retardates than normals. O'Connor and Hermelin (1965) have pointed out that in addition to memory decay, attention or input deficiencies are also more prominent among subnormal than normal subjects. Brown (1955, 1958) postulated that every item presented leaves a trace and it swiftly decays unless rehearsed. The number of items that could be rehearsed or registered are limited to seven items at a time for normals (Miller, 1956). According to him retention is a function of the number of 'Chunks'. The memory involves input, registration, storage, organisation and retrieval which can be observed by the different methods of reproduction such as recall, recognition, relearning and reconstruction.

TEACHING LANGUAGE TO M.R.CHILDREN:

Language:-

Language is a system used to communicate ideas and meaning. Language includes four basic skills which has two phases like :-

Primary Phase - a. Listening	Receptive Language.
b. Speaking	
Secondary Phase-a. Reading	Expressive Language.
b. Writing	

In the primary Phase the child listens the sound and imitates and reproduces them, thus learns to speak. For proper development of speech adequate training in hearing the language is very essential. This training should begin just after birth; quite sometime before he starts speaking.

COMPONENTS OF LANGUAGE:-

The five major components of language are  
(1) Semantic (2) Syntax (3) Phonology (4) Morphology  
(5) Pragmatics.

Semantics:-

Semantics refers to the meaning expressed by verbal symbols (words) as well as the meaning attached to word relationships, grammatical forms and constructions in a language e.g. "Car" "Car go".

Syntax:-

Syntax refers to linguistic rules of word order and the function of words in sentences e.g. "no ball find" " I cannot find the ball".

### 3. Phonology:-

Phonology refers to the sound system of our language. Problem in phonology are attributed to :

Omissions: Incomplete pronunciation such as "Cokie" for "Cookie" "nothin" for "nothing".

Substitutions: Child replaces a correct phoneme with an incorrect phoneme e.g., "thilly" for "silly".

Distortion: This may be due to the complexity of the movements involved, hearing loss or poor motor control. (a) (Snake sound), (b) (buzzing bee sound).

### 4. Morphology:

Smallest meaningful units of language. Bound morphemes (ed, s, s, un) locked, eggs, Tony's and unlocked.

### 5. Pragmatics:

Pragmatics deals with use of language for communication e.g., understanding the difference between requests, commands and promise.

Please go to study.

Go to study

I should go to study.

### INSTRUCTIONAL TECHNIQUES:

#### I. Imitation and Reinforcement:-

Imitation refers to the child's repetition of words and language structures that he/she is learning from a model. This is also known as Modelling.

reinforcement is very essential for correct language learning. Sometimes the child is reinforced by the model when he reproduces the structure correctly. Sometimes he/she gets self reinforcement by communicating the ideas correctly.

## 2. Expansion:-

Refers to practice of not only acknowledging and reinforcing what a child says but also expanding e.g., 'Crayons fall" teacher should expand "The Crayons fell off the table".

## 3. Labelling:-

It is different from expansion : labelling requires no initial utterance on the part of the child. The teacher provides appropriate words: things or feelings e.g., "You should not feel nervous".

## 4. Auditory Training:-

Listening involves attending, discriminating, understanding and remembering which can be improved through training.

## 5. Effective Questioning:-

The content of the question as well as the format used in asking the question can affect, the student's ability to understand and respond appropriately.

- Use questions about specific knowledge.
- Phrase questions so that students may respond.
- Provide sufficient time for students to respond.

... that is it can only be understood in terms of their function, and this is the order of skills

- Distribute questions among all students.
- Reinforce students for responding.

#### 6. Signing:

Manual English is avoided these days even for hard of hearing and deaf children.

#### TEACHING, READING AND WRITING TO MENTALLY RETARDED CHILDREN:-

Reading and written expression can be identified on two levels. The level one deals with the identification of basic skills, level two identifies the application of these skills to the community. (John, 1986)

#### STEPS:

Identifying Potential Annual goals

... Reading Level: I

#### a. Mildly Retarded Decoding.

i. Identifies and pronounces blends commonly found in words, first, second and third grade level.

ii. Identifies, and pronounces consonants initial, medial and final positions in word.

iii. Identifies and pronounces both long and short vowels.

But, Bat

iv. Identifies and pronounces root words prefixes and suffixes.

Car - Car-go, Lock - unlock.



Moderately and Severely Retarded:

1. Recognizes and pronounces a variety of functional words using a whole word memorization approach.

b. Comprehension:

Mildly Retarded

- i. Demonstrate the meaning of a wide variety of words.
- ii. Locates and describes the main ideas of a story and recall the details.
- iii. Follows written directions.
- iv. Sequences events in logical order.

Moderately and Severely Retarded:

- i. Demonstrates the meaning of words by acting appropriately (danger, push).
- ii. Follows some written directions with adaptations.
- iii. Makes basic inferences and evaluations based on listening comprehension skills.

Reading Level 2

Mildly Retarded:-

- i. Locate basic information about objects/ subjects using source books, manuals & dictionaries.
- ii. Uses maps to arrive at intra community and inter community locales.
- iii. Assembles objects using written directions.
- iv. Demonstrates reading skills, in home recreation and other settings.



Written Expression Level II:

Mildly Retarded:

1. Writes name, address & other personal information.
2. Fills out application forms.
3. Writes brief, letters-  
personal and official.
4. Lists activities that need  
to be accomplished.

Moderate:

1. Carries a card containing  
personal information.
2. Writes brief personal letters  
and notes.
3. Lists activities to be  
accomplished.

Step Two:

Translating Annual Goals to Short-term  
objectives (S.TM).

- The objectives has to be written  
according to the age and functional level  
of the children. STM should be related to  
the list of weaknesses, where each weakness  
can become the content for an objective,  
e.g., severely retarded child who was  
unable to read any word from a list of  
vegetables, the STM should be

Outcome:- The student will read five  
names of different vegetables.

Context:- Three different vegetable  
charts containing 10 names.

Criterion:- 100% of the trial.

### Step Three:

#### Assessing Student's Entry Behaviour

A thorough analysis of each learner's strengths and weaknesses has to be conducted. Firstly the teacher should conduct survey level assessment pin-pointing general deficit areas using observation and commercial tests, identify the areas such as, reading aloud decoding, reading comprehension, word usage, spelling, hand-writing and other areas.

Then the teacher may go for specific-level assessment by using various tests or using more informal methods such as teacher-made tests, graded word tests and informal reading inventories.

#### Instructional Strategies:

The most important consideration in teaching reading and written expression to retarded learners should base on each learner's needs, because of the variations in their strengths and weaknesses in visual, auditory and kinesthetic modalities. The teacher should review many possible approaches and programmes, deciding which individual programme or combination of them is the best to match learner's needs.

#### Preliminary Reading :

Reading for children (MA 4 to 6 years) is commenced by learning the names of objects or animals or flowers or fruits drawn on the black-board by the teacher. The children are encouraged to read two or

three letter- words and even two word phrases with the help of corresponding pictures as soon as they recognise or get an idea of the formation of letters. The idea is to push the child on to reading and writing words which make sense, convey some meaning to him so as to make his work interesting and encourage him to learn more. To make this possible the children who e.g., learn in Hindi the accompanying pictures with corresponding symbols to represent the vowels sounds are used. The vowel sounds with corresponding symbols are taught alongwith the letters of the alphabet. New words are easily learnt if introduced into rhyming calculates.

For children (M.A.7 to 10 years), two or three different readers are used and a few lessons are selected from each such as fairy stories and other lessons with useful values such as "who invented the engine", "Ocular health", "Vitamins for health", lessons about usefulness of the doctor, the nurse, the baker, the postman, the Policeman etc. and other lessons which deal with everyday topics. A new lesson is always read out to the class by the teacher, the narrative details are explained, the children are acquainted with the vocabulary, sentence construction, etc. before they commence to read and learn the lesson. Suitable verses of poetry are read out over and over again till the children get used to the sound and rhythm of the verses, sense the beauty of the meaning and are so encouraged to learn the verses by heart.

The children of MA 7 to 10 years are required to read small passages at a time slowly and every effort is made to teach good pronunciation, pauses and expression. Each child reads aloud to the class and the whole class read a passage together. For a few minutes the children read silently from a familiar reader or a story book. Nouns, pronouns, verbs, adverbs are easily learnt with plenty of examples. The children understand number and gender but find it difficult to understand "tense".

The stages of composition easily followed are -

- a) How letters make words ?
- b) How words make a sentence ?
- c) How sentences make a story ?

From two or three given words children make sentences, and from two or three given facts they make a little story. Later on they learn about punctuations, and paragraphs. Writing letters to each other or to distant relatives or friends, invitations to tea parties, etc. make a very favourite activity. Composition should intend to teach the correct form of language which is one of the most difficult subjects to the retarded child as it is language which helps him to express himself.

#### APPROACHES:

##### 1. Phonetic Analysis Approach:

Phonetic analysis or word attack or decoding involves recognising new words by identifying sound when presented with their corresponding, printed symbols, sometimes called the grapheme (symbol)-phoneme(sound) relationship.

Unfortunately, the auditory perception deficits suffered learners cannot learn by this method. But they can learn decoding. Decoding training can be provided by :

- a. The sounds of initial consonants can be paired with pictures.  
b= bat, c=Cat
- b. Colour coding new sounds helps learner to associate sound with colour. Once sound is learnt, colour can be faded.
- c. Colour coding can better be used to show how the blend shows up in different words.  
(bat-red but-blue ban-green).
- d. Showing them that by changing the initial word new words can be formed 'an' 'at'  
(pan, tan, man/cat, mat, hat, bat)

## 2. Basal Reader Approach:

Teacher like basal readers because they are structured, have manual listing objectives and supplemental activities and are self-contained. Mercer and Mercer (1985) pointed out a number of disadvantages:

- it limits teacher's willingness to develop innovative activities.
- it is designed for a group and tend to overshadow the individual needs,
- many basal readers present multiple objectives within one lesson which may be difficult to achieve by a retarded learner. If the teacher

emphasizes only one or two objectives and develop many supplemental activities it can be used for retarded learners.

### 3. Language Experience Approach :

In this system learner's experiences are used as the basis for the reading material. Students who can write put their stories on paper and those who are unable to write present their stories orally to be written by others. But retarded children usually have deficits in oral language.

### 4. Linguistic Approach :

This approach emphasis phoneme/grapheme relationships and minimizes any comprehension skill in the early stages of instruction (Marsh, Price & Smith 1983). Many linguistic programme use the whole word approach, clustering words that are similar in structure e.g., Cat, Bat, Fat.

Retarded learners also have auditory perception problems and difficulty in transferring knowledge or skills across situations will face problems.

Teachers will find this approach useful if he can monitor and provide ample directions in the form of prompts and clues- man, pan, tan.

### 5. Remedial Reading Approach :

This approach emphasises :-

1. Allow repeated practice (over learning), allow also retarded learners with long-term memory deficits to retain better.



2. Allowing learners to master easier skills before moving to more difficult task through sequencing or task analysis.
3. Provide immediate feed back and correct the errors.
4. Provide opportunities to practice learned skills under varying conditions for generalisation.
5. Allowing students to practice skills using visual, auditory, & tactile with the help of multisensory approach.

Remedial approaches are specialised and should be matched to the strengths and weaknesses of each learner but must not conflict with instructions in the regular class.

#### 6. Functional whole word Approach:

This is useful for moderate and severe retarded learners. This approach has been defined as a student's actions or responses resulting from reading printed words, e.g., severely retarded learner reads the word 'bread' and selects a loaf in the shop performs an observable behaviour resulting from reading. Teacher should cluster the words according to specific activity (shopping, school going).

#### Techniques for Teaching Reading Comprehension

1. Baumann & Johnson (1984) suggest helping students develop branching trees by clustering words according to association, to improve word comprehension e.g., ball can be associated with catch and throw.

2. It is important to teach learners vocabulary words that lend meaning to a paragraph by describing when things occur, e.g., "to begin with" 'next' finally.
3. The ability of students to identify key words and main ideas in a sentence or paragraph is an important skill. Underlining and colour coding the main ideas draws students' attention.
4. Teaching retarded learners the thinking process that accompanies reading comprehension may help them grasp some more difficult skills. Teacher's question "can you prove it" stimulate the students interest in reading.
5. Role playing in stories may help them pay more attention to the details of the text.
6. The pictures can accompany the sequence of the events and students can practice placing the pictures in sequence.
7. Kann (1983) developed the method of 'repeated reading' that requires a student and teacher to read a passage aloud together several times. It improves the fluency and understanding.
8. Teacher should cue learners about the content of a passage or story prior to instruction or reading (Wilson, 1983).

#### Teaching writing Skills to Retarded Learners:

##### Preliminary Writings:

Writing has been found too difficult for retarded children of MA (2 to 3  $\frac{1}{2}$  years). They scribble on the exercise book, slate or black-board

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and later on they play at drawing lines and circles or splash with colours.

"Scribble" patterns precede writing as a baby's babbling precedes speech. Free scribble should at first be encouraged. They may like to scribble on the wall, door, window or floor. Scribbling stage for 2 to 4 years olds is characterized by (1) Disordered Movements. It is a kinesthetic experience.

There is no control of movements.

(2) Controlled Movements. The child makes repeated movements and there is evidence of some establishment of co-ordination between visual and motor activity.

The most important factor in teaching "writing" is the expansion of the child's experimental background through :

- a) Outings
- b) Picture Book reading
- c) Utilising the child's own vocabulary.

Even if it is only a "Scribble" a piece of "Writing" can be hung on the wall for all to see or to be taken home to grace a prominent wall in the house for all to admire. Whether his writing spells "Dog" or "Cat" or "Mary" or just scribble, it doesn't matter. It is his personal achievement and a sign of development. The average 2 year old should be able to make a vertical stroke. He has greater difficulty in imitatively producing horizontal stroke. At the age of 3 he should be able to copy a circle from a model. He should also develop

the concept of "beginning and end" his circle. At 4 years he should be able to copy the cross by making two straight right-angle strokes. The copy of a triangle is a little more difficult. At the age of 5 years the average child can copy both a square and a triangle but shows an inability to copy a diamond. It has been found that the majority of mentally handicapped children have the ability to write when they are mentally ready to write as long as they have had considerable experience in drawing, painting and pencil manipulation. Consequently early emphasis on motor co-ordination would greatly assist the retarded child in his attempts to write. The teacher must proceed slowly, review often, give much individual help, be generous with praise and encourage continually with love and affection. Teaching steps must be smaller, more deliberate and detailed.

The brain injured child has special problems in writing. He may have both visuo and audio perceptive disturbances. They may have difficulty in visuo-motor coordination. They may be unable to copy or even trace anything with a pencil or crayon. Some of the brain injured children may encounter a great deal of difficulty in making the proper height of letters. A brain-injured child may be unable to slow down and he may scribble all over the paper. The paper does not offer sufficient resistance to the pencil or crayon. Roll out some modelling clay in the bottom of a rectangular shallow pan, let him copy the letter or simple design in the clay by using a stylus or a wooden stick like a sharpened pencil.

# Teaching Writing Skills to Retarded Learners: ~~Techniques for Teaching Written Expression Skills:~~

1. Learners who have found writing too difficult because of severe deficits in hand-writing, spelling, punctuation and other skills can find micro computer as very useful to complete their work with fun.
2. Providing students with deficit vocabulary, a list of words, that they can use to form sentences.
3. Providing uncompleted sentences that are required to be finished by supplying main ideas, gradually made the numbers of words provided by the teacher. Team of students can work together to finish a story.
5. Reading and spelling should be together. Students should identify words while reading that have difficulty in spelling and underline these words. Learning phonetic rules - dropping 'y' and 'ing'.
7. Pairing picture cases with sounds, colour coding, drawing arrows and underlining.
8. Reading aloud frequently creates positive attitudes in reading.
9. Using talking books improves comprehension and assist learning new concepts when the learners cannot read independently.
10. Peer tutor help in teaching, reading and writing to retarded learners.

In writing, the children of MA 4 to 6 years trace with their fingers round shapes and then begin to write letters on the exercise book or slate. After this has been accomplished, the teacher draws large squares on a bank book, and with great pleasure the children hold a pencil and commence to write in a book. The squares are gradually made smaller. After that double lined books marked at about one & half inches intervals for learning "spacing between words" are used. Very gradually the child learns to copy sentences. There may be two groups of children as all of them do not come upto the same level of attainment. Some learn to read and cannot write, while others who take interest in writing and drawing may not read at all. To solve this problem, most of the writing in the class should be closely related to other areas of the curriculum, particularly the reading programme. The reading vocabulary should become the writing vocabulary. The words which pupils will learn to write, first from copy and later from memory, should be those which they have learnt to recognise as "sight words" in their reading and which can be demonstrated or experienced in activities. Usually writing lags behind speech development. Reading ability usually comes in advance of writing.

Writing helps the pupils to effect a transition from picture symbols to word symbols and as such it strengthens an accepted form of social communication.

Teaching Retarded Learners the Number Concepts:

Number Concept:

The mentally handicapped are marked by backward in number concept. The first idea in number is just that of 'one' and 'many'. A picture of one pencil in a box and another picture of many pencils in a box, and concrete objects such as one bead to play with and many beads, help to convey the meaning to the child. For learning specific numbers the little ones just slide beads on frame this way and that way and call up to 4 or 5.

For children (Ma 4 to 6 years), numbers can be learnt in many ways - (a) children standing in a row with numbers instead of names from 1 to 10.

- (a) Counting fingers.
- (b) Counting beads, blocks, sticks, marbles, etc.
- (c) Counting stairs while going up and down.
- (d) Sorting equal number of sticks into different boxes.
- (e) Threading beads in different colours,  
1 red, 2 yellow, 3 blue, 4 green, 5 pink  
and so on.

Numbers from 1 to 10 seem to take such a long time. Numbers after 10 are learnt quicker except at the change from 19 to 20, 29 to 30, 39 to 40 and so on.

Once the numbers are learnt, counting and sums are learnt in graded stages.

A variety of blocks, beads, pegs, counters, shells, sticks, counters are to be used to make the child familiar with number concept and the composition of numbers.

Children (MA 7 to 10 years) learn measuring with liquid and dry measures, with centimetres, metres, feet and yards, and visualise short distances and distances of a kilometre by examples of familiar places like temple, church, shop, etc. Shopping with real money at a small canteen or stationery shop in school forms a basis for practical number work and the use of numbers in practical life.

#### Step 7:

To calculate the remaining sum of a rupees after buying an article of value under one rupee.

#### Step 1 Pre-Requisites:

- Mental Age 2 to  $3\frac{1}{2}$  years.
- One word speech.
- Can pick up a coin with fingers or can point to the coin.

#### Method :

When the child starts naming the articles like pen, pencil, rubber, etc., plate, fan, spoon, etc. he can start identifying the coins (and rupee notes) as money. He can be asked "What is this?" and he would answer "Money". Occasionally he is given a chance to exchange the coin for a candy or a toy and thus he will get the idea that money can buy.



Step 2 Pre-Requisites:

- Two word speech.
- Some idea regarding shape, size, etc.
- MA 3 to 6 years.

Method:

Give the students a bunch of various coins.  
(Explain to him the size, shape, etc. of 10 paise coin.  
Let him feel it and understand it.

Ask him to pick up similar coins from a bunch.  
Every time he picks up the coin he should name it  
"10 paise".

See that he picks up the correct coins. Once he  
is conversant with 10 paise coin, same exercise can be  
repeated for 5 paise, 20 paise, 25 paise, 50 paise and  
so on and thus he can be made to identify various coins.

Step 3 Pre-Requisites:

- Mental Age 4 to 6 years.
- To speak 10-20-30-40 - - - 100 in chronological order.

Method:

The child is made to recite and/or write 10-20-  
30-40-50-60-70-80-90-100 in chronological order without  
mistake. He is then given 10 coins of 10 paise each and  
made to recite the same as before but at every step he  
puts one coin from his hand on to the ground (or into  
the teacher's hand). Thus he learns the addition of  
coins of 10 paise.

### Step 4 Pre-Requisites:

- Mental Age 6 to 7 years.
- To speak 15-25-35-45 - - - 95 in chronological order.

Method:

He is made to write as follows with proper explanation and made to understand this well.

$$15 = 10 + 5$$

$$25 = 10 + 10 \div 5$$

$$35 = 10 + 10 + 10 + 5$$

[illegible][illegible]

$$95 = 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 5$$

Then instead of only writing he takes up the coins of that value and thus he starts addition of 5 to multiplication of 10.

Step 5 Pre-Requisites:

- Mental Age 7 to 8 years.
- Counting up to 100.

## Method

$$10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 + 10$$
$$= 100 \text{ paise} = 1 \text{ Rupee.}$$

$$10 + 10 + 10 + 10 + 10 = 50 = 50 \text{ paise coin.}$$

$10 + 10 = 20 = 20$  paise coin.

$$10 + 10 + 5 = 25 = 25 \text{ paise.coin.}$$

5 + 5 = 10 = 10 paise.coin.

All this is to be taught by taking the exact coins in hand and making equalisation of two sides.

Step 6 Pre-Requisites:

- Knowledge regarding the previous steps in "money training".

Method :

Ask him to give a particular 'sum' from the bunch of coins. To make him understand the various combinations, see that certain coins are not kept in the bunch - say when 50 paise are demanded, coin of 50 paise is not kept in bunch-so the child is compelled to collect 5 coins of 10 paise and so on.

Step 7 Pre-Requisites :

- Knowledge of previous steps in money counting.

Method :

Open an artificial shop. Let the student be the customer. He buys the article of a particular value and hands over to the shopkeeper (teacher) a rupee. The teacher gives the remaining amount by narrating the further counting from the value of the article to 100. Say, an article of 20 paise is purchased. Then the teacher gives a 10 paise coin and says  $20 + 10$  i.e. 30 and goes on saying 40-50-60-70-80-90-100 every time giving a 10 paise coin upto 100. Here he is not asked about subtraction at all. Then the position of teacher is interchanged with pupil i.e., pupil becomes the shopkeeper.

### Teaching Arithmetic :

The thrust of teaching arithmetic to retarded learners has been to teach teaching them as functional skills. Schwartz and Baer (1983) defined functional math (arithmetic) as "... uses of mathematics needed for vocational, consumer, social, recreational and home making activities."

### Identifying Potential Annual Goals:

Arithmetic Level I: Numbers, counting and place value:

#### Mildly retarded:-

1. Matches the correct numerals with pictured sets of objects.
2. Says the correct numbers when presented with sets of objects upto 10.
3. Writes numbers from 1 to 100 when directed.
4. Writes numbers that are either prior to or follow a given number upto 100.
5. Writes the words "odd" or 'even' up to 10.
6. Identifies place values up to the hundredth place.
7. Writes up to 100 when presented with oral stimuli.

#### Moderately Retarded:

Same as Mildly Retarded learners.

#### Severely Retarded:

1. Matches correct numbers with pictured sets of objects up to 10.

Operations

Mildly Retarded:

1. Memorizes basic addition and subtraction from 0 to 10.
2. Computes one-digit plus one-digit numbers and two-digit plus two-digit numbers without and with regrouping.
3. Computes one-digit minus one-digit numbers and two-digit minus two-digit numbers with and without regrouping.
4. Memorizes basic multiplication facts.
5. Computes two-digit times two-digit numbers both with and without regrouping.
6. Memorizes basic division facts.
7. Computes three-digit divided by two-digit numbers with and without borrowing.

Moderately Retarded :

1. Computes basic addition and subtraction problems with and without regrouping.

Severely Retarded :

1. Adds and subtracts sets of objects up to 10.

Level 2:

Measurement

Mildly Retarded:

1. Compares objects on the basis of length ( longer and shorter).
2. Compares weight of objects using balance.
3. Measures liquid and dry volumes.
4. Measures temperature in home and vocational setting.

Moderately and Severely Retarded:

1. Measures units of weight, volume and temperature in home and vocational settings using adaptations such as colour coding or picture representation.

Money

Mildly Retarded:

1. Identifies coins and currencies.
2. Demonstrates the value of coins and currencies.
3. Makes change for currency.
4. Computes money problems, uses addition, subtraction to compute money problems involving making change for various coin and currency denominations.
5. Successfully uses money in a variety of transactions.

Moderately and Severely Retarded:

1. Uses coins and currencies upto Rs.10/- in a variety of transactions.

Time

Mildly and Moderately Retarded:

1. Names days of the week and months and knows the year.
2. Indicates time of the day by naming activities such as breakfast, lunch.
3. Correctly uses the calendar to locate dates.
4. Tells time using digital clock by hour, half hour, quarter hour and minute.
5. Understands vacations, holidays and week ends.

Severely Retarded:

- 1) Understands the relationships of time and long activities.
- 2) Relates time of day to specific activity morning -

### TEACHING OPERATIONS

Frustration in teaching operation addition etc. may occur when teachers attempt to teach the operation before the student has a full grasp of the concepts involved. Therefore, teachers should be certain that students have a good grasp of place values and number to object sets before presenting problems dealing with operations.

1. Have students practice with concrete objects such as blocks or straw, placing some in "ones" piles and some in "tens" piles (Sander, 1981). Students can practice placing 10 blocks in the "ones" pile and then placing one block to represent the 10 in the "tens" pile. For each skill teachers wish to present, they should consider moving their students from the concrete to the semiconcrete, and eventually to the abstract level (Reisman, 1982). Therefore, this activity can be repeated using marks on paper in place of blocks (semiconcrete) and finally using numbers in place of either objects or written cues (abstract) (Thornton, 1979).

2. Performance cues (Morsink, 1984) should be used extensively with retarded learners, assisting them in remembering the steps in the operation. For example, a teacher might choose to use colored dots, each dot signifying one of the successive steps to subtracting with regrouping (Bellamy, Greiner, & Juttars, 1974, Brown & Bellamy, 1972).

3. Marsh, Price, and Smith (1983) presented an interesting method of assisting students to add and subtract using a semiconcrete technique. They suggested an activity where teachers color code dots on numbers

representing their properties. The students then use the dots to count out the answer to the problem.

4. Precision teaching (White & Haring, 1980) advocates the use of timed exercises as a technique to improve the performance of handicapped learners. Children are generally competitive and enjoy trying to "beat" the number of correct problems they can compute per minute. (Additional information about rate can be found in Chapter Four). Brillaman and Abbott(1983) have found that using timed exercises can improve the ability of learners to memorize basic facts (e.g.,  $6 + 2$  or  $5 \times 6$ ).

5. Multiplication facts are often most difficult for retarded students to learn (Cowan, 1978). If many methods of instruction have been tried with little success, the teacher should consider allowing the student to carry a multiplication table for use in community activities. These tables are often given free by banks and are wallet size.

6. Mercer and Mercer (1985) suggested the following trick to teach the difficulties to learn 9 stable. First, the student subtracts 1 from the multiplier and places one number in the tens digit of the answer. The next step involves adding to the number obtained in step 1 until 9 is reached.

$$\begin{array}{r} 9 \times 7 = \underline{63} \\ - 1 + 3 \\ \hline 6 \quad 9 \end{array}$$

$$\begin{array}{r} 9 \times 8 = \underline{72} \\ + 1 + 2 \\ \hline 7 \quad 9 \end{array}$$



7. Learning centers allow students to interact with semiconcrete materials depicting various math concepts or functional math applications (Broome & Wambold, 1977). For example, Ashlock (1982) presented a game that incorporates chips whose colors represent various place values. Games such as this can be incorporated into a learning center allowing students to practice math concepts in a less demanding, more enjoyable setting.

8. The pocket calculator is an effective aid for retarded learners who continue to demonstrate severe deficits in basic operations (Mulhern & Koller, 1977). Students should learn basic care of pocket calculators and how to use them in a variety of situations. Colored marks can be made on the calculator to highlight various signs or cue the learner to the type of operation needed. Calculators that also provide a hard copy printout are now available at relatively low prices. These units can be very helpful to learners because the printout demonstrates the entire operation instead of just providing the answer.

9. A mini reference book can be developed for students that translates common vocabulary and phrases found in word problems and daily living tasks into operational functions (e.g., "which is cheaper" = subtract, "gives to another" = add).

#### Techniques for Teaching Time and Money

Teaching the ability to tell time accurately and use money both efficiently and effectively are high-priority goals for many retarded learners (Brock, 1979). These skills, more than some others,

require intensive training in relation to community and daily school activities. Whenever possible, teachers should start by using concrete events or tasks that students can associate with the skill (e.g., 12 p.m. is lunch time; 40 cents will buy a soda from a vending machine). Most moderately and severely retarded learners will often associate both time and money with concrete events. Mildly retarded learners can learn to compute time and money problems at the semi-concrete level and eventually move to more abstract activities such as budgeting and time management (Thurlow & Turnure, 1977).

1) Reisman (1982) suggested using a circular number line to help students remember the relationship between minutes and hours. Number lines have also been successful in teaching money skills (Frank, 1978).

2) Students can develop a time log, pairing drawing of certain times with a common activity.

9 a.m., Physical  
Education (PE)

3) Standard clocks can be paired with digital clocks for as many activities as possible.

4) For some moderately and severely retarded learners, telling time to the minute may not be an appropriate goal. Smith (1983) reported a procedure developed by O'Brien at Southern Illinois University

that taught retarded learners to tell time by the quarter hour and then say, "it's about " to the nearest 15 minutes.

5) Mercer and Mercer (1985) have suggested the use of money cards to teach making change. Teachers can develop a card that helps students estimate the amount of change they should receive. For example, a student shopping with \$5.00 can carry a card with five circles, each representing \$1.00. If the student spends \$3.50, the student marks three circles and part of a fourth, leaving one whole and part of one circle left. This cues the student that \$1.00 and some change should be received in return for the \$5.00.

6) Task analyzing, time-telling and presenting students with single small steps has proved to be effective (Barcott, 1973). For example, a first step is counting minutes on a clock. This must be mastered before a student can move on to the next step of counting minutes by five (Finkel & Zimmerman, 1976).

7) Bellamy and Outcalt (1975) successfully taught moderately retarded students to count change by first teaching them rote counting skills. Although these skills were not taught in functional settings, the methods of task sequencing and use of picture cues to help the students match coin equivalents proved to be successful.

8) Paying younger students with real money for classroom activities can be an effective prerequisite to teaching more advanced money management skills (Langone, 1981). As students gain these skills, more advanced ones (e.g. checkbook, banking) can be taught using larger amounts of money (Orr, 1977). Money for these activities can be obtained from donations and class money-making projects.

9) Wheeler, For, Nietupski, Loomis, and Brown (1980) presented a comprehensive program designed to teach retarded learners to use calculators when shopping. Basically, the skills were task analyzed and translated into objectives that would allow students to practice the skills in natural settings. Students were taught to label, locate, and obtain a variety of grocery items. In addition, they were taught to use pocket calculators to add the total amount for the nontaxable food items they obtained and subtract the total from the amount of money they carried. These skills were taught using cuing and correction procedures such as modeling, verbal correction using direct and indirect cues, gestural cues, and pictorial cues. Similar techniques have proved successful in other studies (Smuts & Kleinlog, 1980).

10) Chaining subskills together to form more complex coin equivalency skills has also proven effective (Trace, Cuvo, & Criswell, 1977). Students were taught to link behaviors such as locating the vending machine, selecting an item, and choosing the appropriate coins. Similar techniques involving chaining, cueing, and reinforcement have also been successful in teaching coin equivalency (e.g. Borakove & Cuvo, 1977; Lane & Tivo, 1976).

11) Students are able to learn money skills faster when the objectives are paired with naturally occurring contingencies. For example, programs to teach money skills have been successful when paired with other independent living skills such as eating at restaurants (Van den Pol, et al., 1981) and shopping skills (Nietupski, Certo, Pungian, & Belmore, 1976).

### Techniques for Teaching Measurement

Teaching measurement skills to retarded learners can be facilitated with a majority of instruction involves activities allowing students to manipulate objects. Therefore, activities such as cooking and those related to vocational tasks lend themselves to measurement instruction (Schwartz & Budd, 1983).

1. Volume, weight, and linear measurement may best be taught using as many concrete materials as possible (Polloway, Payne, Patton, & Payne, 1985). For example, when changing measures or comparing weights, the use of actual materials may help the students grasp the concepts of more and less, heavier and lighter.

2. Activities allow students to explore novel materials or activities that result in a product may help students learn the skills for functional use. For example, Aiello (1976) allowed students to use tools while learning the metric system. Similarly, Miller (1978) taught metrics to EMR students while constructing projects in a shop class.

3. Having students constantly compare metric measurements with English measurements helps them to at least be able to compare units visually

(Sengstock & Wyatt, 1976). The basis for teaching metrics is to be sure the students have thoroughly learned the English system before the comparison process is taught (Etlinger & Ogline, 1978).

4. Students appear to learn measurement skills best when they are paired with activities that interest them. Therefore, measuring objects found around the home and measuring in relationship to cooking appear to be highly motivating methods for teaching (Marpet and Prentky, 1974).

5. Color coding and pictorial cues can be effective for teaching measurement skills. They are also effective adaptations for assisting students in learning more advanced home management and vocational skills if they have not been able to learn to measure. For example, a moderately retarded learner may be able to participate in an agricultural vocational education class learning the skills of a feed lot man if color coding is used to help him learn to mix cattle feed (Langone & Gill, 1984).

#### KEY CONCEPTS

- \* Methods for teaching arithmetic skills should help students understand the concepts and motivate them to succeed.
- \* Token reinforcement systems have been successful in motivating students to succeed in arithmetic.
- \* Functional or community-related math skills are themselves highly motivating to students.
- \* Students should begin with concrete activities, then, to semiconcrete and then on to abstract activities.

## PREVENTION OF MENTAL HANDICAP

Dr. S.K. Goel,  
Reader,  
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Prevention of mental handicap is of the first importance and needs top priority in national health planning programmes. It entails :

1. Provision of comprehensive medical and health services to all, especially, adequate parental, natal and early post-natal care.
2. Improvement of general socio-economic condition of the population.
3. Public education regarding the risks of consanguineous marriages, i.e., marriages between blood relatives, as there is high risk of mental handicap in the children of such marriages than in children of unrelated parents. Genetic advice should also be available to families where any member of the family suffers from any inherited disease.
4. Public education regarding the etiology of mental handicap.
5. Planning of the family to ensure that child-bearing should be limited to the maternal ages between 20 and 30 years.
6. Improving nutrition of the pregnant woman.
7. Care of the pregnant mother, her protection from infection, unnecessary medication, X-Ray exposure, injury and anoxia.
8. Provision of an adequate number of antenatal clinics for check-ups and advice. Provision of home care whenever necessary.

9. Provision of good obstetric services. Supervision of deliveries by adequately trained personnel. Availability of referral services for rapid transfer of any abnormal deliveries to centres for expert advice and intensive care.
10. Adequate care of the neonate, infant, pre-school and school child.
11. Adequate nutrition for the child.
12. Early immunization against all preventible diseases for which immunizing agents are available (especially B.C.G. vaccine for tuberculosis).
13. Good environmental sanitation and health education. Early home stimulation programmes for disadvantaged groups. Preventive measures such as boiling or chlorination of drinking water, protection of food from flies and personal cleanliness.
14. Protection of children from injury and accidents. Planning of housing colonies and a central play-field.
15. Protection of children from poisonous, dangerous substances, environmental pollutants, such as lead, mercury and other hazards.
16. Public education regarding parental care and health hazards.
17. Prenatal diagnosis of suspected metabolic disease by amniocentesis. Medical termination of pregnancy following diagnosis, if necessary.
18. Controlling metabolic and endocrine diseases, if diagnosed early, so that mental handicap does not occur or can be minimised. Such conditions include phenylketonuria (PKU), galactosemia, cretinism, etc.,



19. Pre-school, day care, adolescent and home inter-

vention programmes for children from low socio-economic status homes.

20. Centres for prenatal diagnosis, genetic counselling and treatment. Early detection and screening programmes to identify children at risk of mental handicap.

21. Early and adequate treatment where disease cannot be prevented. This applies especially to prevention of dehydration in diarrhoea and rehydration measures, and treatment of meningitis and encephalitis.

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LEARNING DISABILITY :  
CONCEPT, ETIOLOGY, CHARACTERISTICS, IDENTIFICATION  
INSTRUCTION

Prof. K.C. Panda

CONCEPT :

National Advisory Committee on Handicapped Children (U.S.A.) defines learning disability as follows :

1. LD children exhibit disorder in one or more basic psychological processes involved in understanding and in using spoken or written languages.
2. These disorders are manifested in listening, thinking, talking, reading, writing, spelling, and arithmetic.
3. They include conditions which are referred to as perceptual problems, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc..
4. They do not include learning problems which are primarily due to visual, hearing, or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantages.

CAUSES :

(i) Organically based causes : LD arises because of minimal brain dysfunction (MBD). The dysfunction occurs in central nervous system which consists of brain and the spinal cord. The malfunctioning is not due to damage, but due to dysfunction which is only minimal. Minimal brain dysfunction arises due to (a) cerebral hemorrhage, cerebral disease because of high fever, head injury, (b) intruterine environment-premature birth, anoxia, physical trauma,

(c) constitutional genetic neurochemical dysfunction. It must be noted that all brain dysfunctions are not associated with learning disability, and all types of learning disability do not arise due to brain dysfunction.

(2) Environmentally based causes : Learning disability may be caused due to insufficient early experience and emotional disturbance.

CHARACTERISTICS OF LD CHILDREN :

Motor Activity :

Hyperactivity : - constantly engaged in movement, unable to sit still, too much of talking in the class, very much inattentive.

Hypoactivity - (reverse of hyperactivity) - lethargic, quiet, passive.

Incoordination- physical awkwardness, poor motor integration, poor activities in running, catching, skipping, and jumping; walking is rigid and stiff; poor performance in writing, drawing; frequent falls, stumbling, and clumsy behaviour.

Perserveration - involuntary continuation of behaviour; this behaviour is witnessed in speaking, writing, drawing, pointing, and oral reading; incorrent spelling, repetition of errors.

Disorders of Emotionality :

1. He is quite and obedient, but day-dreams and cannot read.

2. He has frequent temper outbursts, sometimes for no apparent reason.
3. He is nervous; his attention is difficult to hold.
4. He jumps from one thing to another, and minds everyone's business but his own.
5. He lacks self control, cannot work with other children, teaches them constantly.
6. He is emotionally labile and unstable.

Emotional instability arises mainly due to prolonged dependency on the mother, lack of contact with the outside world which generates frustrations.

#### Disorders of Perception :

1. He is unable to identify, discriminate and interpret sensation.
2. He has poor visual decoding (unable to reproduce geometric forms accurately, figure-ground confusions, letter reversals and rotations).
3. He has poor auditory decoding (inability to recognise tunes, to differentiate between sounds).
4. He cannot identify familiar objects by touch alone (cutaneous misperception).
5. He has poor kinesthetic and vestibular perception (problems in coordination, movement, directionality, space orientation, and balance, difficulties in perception lead to difficulties in concept formation, abstraction ability, cognitive ability, and language ability).

#### Disorders of Symbolisation :

1. He has poor receptive-auditory ability (poor understanding of spoken symbols, requests or repetition, echolalie, confusion of directions and commands).
2. He exhibits receptive-visual difficulty (subvocalise reading, read without understanding).

3. He has poor expressive-vocal ability (disorganised thought, inadequate syntax, and dearth of ideas for expression).
4. He manifests expressive-motor difficulties (spelling disorders, drawing disorders, omission and reversal of letters, omission of whole words).

Disorders of Attention :

1. The child cannot sustain his attention for the required amount of time.
2. He is unable to attend to the relevant and ignore the irrelevant. He may be attracted to every stimulus that surrounds him.
3. He can be diverted easily from one topic to another.
4. He may provide excessive attention to unimportant details while disregarding the essentials (attends to the page number than to the printed matter or the picture on the page).

Disorders of Memory :

1. Disorders of memory involve difficulty in the assimilation, storage, and retrieval of information and may be associated with visual, auditory, or other learning processes.
2. The LD child has difficulty in reproducing rhythm patterns, sequence of digits, words, or phrases.
3. He has difficulty in revisualising letters, words or forms.
4. Both the short-term and the long-term memory of the LD child are poor.
5. He fails to see the relationship between his present and past experiences.

IDENTIFICATION :

1. Near average, average, or above average in intellectual ability.
2. Disinhibition (impulsive talk and/or action).

3. Inattention (inability to focus on one activity).
4. Distractability (attention disturbed by noise, movement, visual stimuli, or one's thoughts).
5. Perseveration (inability to shift easily from one activity to another).
6. Quick mental fatigue for sustained performance on tasks.
7. Social misperception (immature or inappropriate responses in social encounters).
8. Reversing, rotating, and/or transposing letters or words in reading and writing.
9. Spatial difficulties (problems with orientation and directionality).
10. Difficulty in understanding and/or remembering oral messages.
11. Difficulty in interpreting and/or remembering visual messages.
12. Language difficulties (problems with word-finding and word-organising ability).
13. Confused or disorganised approach to task performance, employing an inefficient trial-and-error method.
14. Thinking problems (difficulty with abstract organisation of ideas).
15. Generally poor fine motor coordination
16. Clumsiness.
17. Hyperactivity (unusually high rate of purposeless motor activity).
18. Hypoactivity (unusually low amount and rate of motor activity).

INSTRUCTIONAL TECHNIQUES : (Understanding & Remembering) :

1. Use short, brief directions
2. Use consistent language
3. Write directions or steps on the chalkboard or a poster.
4. Alternate the use of colors for each step in a series of directions.
5. Record directions on a cassette tape.
6. Use diagrams or pictorial illustrations.
7. Provide a completed example.

Providing Structure :

1. Have the pupil keep a daily record of everything(s) he does with the amount of time engaged in the activities.
2. Have the pupil list all future events that need to be scheduled. Provide a hypothetical list to suggest possible events.
3. After the pupil has an idea of how time is spent and future events that must be planned, it is time to develop a weekly schedule.
4. Once the weekly schedule is being planned and implemented successfully, the pupil can begin to keep a monthly schedule.
5. Pupils in the upper grades may find useful a schedule from that provides for specific subject matter assignments and various types of activities.

Thinking Skills :

1. Have the student collect data by reading, listening, and observing.
2. Have the student discriminate differences and similarities in the data. Teacher questioning can be used to prod the pupil until the ability to make these discriminations improve.
3. Have the pupil categorise and classify the data. Labelling is important during this stage.



4. Have the pupil recategorise and classify the data in other ways. This continuous reorganisation and restructuring is necessary to integrate new information and new experiences into the pupil's mental structures.
5. Have the pupil make predictions based on the data.
6. Have the pupil generate alternative predictions using the same data.
7. Have the pupil evaluate the alternative predictions by comparing and contrasting possible outcomes and their effects.

Improving Memory :

1. Have pupils repeat telephone numbers and street addresses of emergency service facilities (police, fire, etc.).
2. Have pupils learn songs by listening to the words and tunes.
3. Play games in which the first pupil makes a statement, the next pupil repeats that and adds a statement, the third pupil repeats those statements and adds one, and so on.
4. Have pupils make up rhymes related to subject matter, such as, 'In 1492 Columbus sailed the ocean blue'.
5. Have pupils repeat oral directions.
6. Have pupils resequence cartoon strips (without words) that have been cut apart. This forces them to observe details in the pictures.
7. Have pupils describe configurations of words that are similar. By comparing them with them, pupils would be forced to discriminate that them is slightly longer than then because it has one more hump.
8. Have pupils repeat the sequence for a recipe that they have read.
9. Use tachistoscopic devices.

10. Have the pupil practise attending to larger units at one time. For instance, some try to copy one syllable at a time. Encourage the pupil to increase the length of the visual stimulus that she holds in her mind as she writes it down.
11. Help the pupil to practise internal auditorisation as an adjunct to visual memory; that is, have the pupil say the letters or words to herself while she is translating the written information.
12. Write every other item on the chalkboard with a different colour chalk. This helps the pupil to "find her place".
13. Allow the pupil to copy another pupil's work. Some of these pupils perform better with paper-to-paper copying than with chalkboard-to-paper copying.

#### Arithmetic :

1. Establish routines for arithmetic instruction.
2. Use consistent language until the process is mastered.
3. Provide numerous opportunities to apply new skills.
4. Ensure the meaningfulness of the material.
5. Employ concrete, manipulative learning materials.

#### Spelling :

1. Have pupils correct their tests under the supervision of the teacher.
2. The pre-test-study-test method is best.
3. Words presented in single-column print are most effective.
4. Learning words by syllables is less effective than a synthetic word approach.
5. Proof reading skills improve spelling achievement.
6. Review and/or reteaching on a consistent basis improves retention.
7. A systematic technique to study unknown spelling words must be taught.

TABLE - 1

<u>Reading Approach</u>	<u>Advantages for learning Disabled pupils</u>	<u>Disadvantages for learning Disabled Pupils</u>
Basal	<ol style="list-style-type: none"> <li>1. Comprehensive</li> <li>2. Controlled vocabulary</li> <li>3. Sequential introduction of skills</li> <li>4. Reinforcement of skills</li> <li>5. Diagnostic and evaluative material usually provided.</li> </ol>	<ol style="list-style-type: none"> <li>1. Limited flexibility in teaching style.</li> <li>2. Individualized instruction not encouraged.</li> <li>3. Lack of depth of material necessary for skill mastery.</li> <li>4. Lack of provision for processing deficits.</li> <li>5. No choice of analytic or synthetic phonics instruction.</li> <li>6. Subject to repetition of the same stories and methods resulting from failure.</li> </ol>
Phonics	<ol style="list-style-type: none"> <li>1. Effective decoding technique for pupils with good auditory abilities</li> </ol>	<ol style="list-style-type: none"> <li>1. Not effective for pupils with auditory deficits</li> <li>2. May be taught in isolation</li> <li>3. Comprehension neglected</li> <li>4. Invariance in English language may cause confusion.</li> </ol>
Linguistic	<ol style="list-style-type: none"> <li>1. Control for irregular spelling in initial stages</li> <li>2. Gradual introduction of phonics</li> <li>3. Extensive repetition</li> </ol>	<ol style="list-style-type: none"> <li>1. Little emphasis on comprehension in initial stages</li> <li>2. Vocabulary controlled for regular elements and does not utilize spoken language of pupil.</li> </ol>
Language experience	<ol style="list-style-type: none"> <li>1. Motivates with personal stories</li> <li>2. Uses pupils' oral language.</li> <li>3. Can incorporate specific skill development.</li> <li>4. Can include language arts skills.</li> <li>5. Good for pupils with good visual-motor abilities</li> </ol>	<ol style="list-style-type: none"> <li>1. May be limited by pupils' language level</li> <li>2. Lacks structured, systematic, approach to skill development.</li> </ol>

Reading Approach	Advantages for Learning Disabled pupils	Disadvantages for Learning Disabled Pupils.
Programmed	<ol style="list-style-type: none"> <li>1. Small sequential steps</li> <li>2. Immediate feedback</li> </ol>	<ol style="list-style-type: none"> <li>1. Lacks direct instruction</li> <li>2. May be confusing format</li> <li>3. May be boring because of consistency.</li> </ol>
Multi-sensory	<ol style="list-style-type: none"> <li>1. Uses more than one sensory input to get messages to the brain.</li> <li>2. Can use an analytic approach (Frenald) or a synthetic approach (Gillingham-Stillman)</li> </ol>	<ol style="list-style-type: none"> <li>1. Lack of sequential skill development in some programs.</li> <li>2. Sensory overload experienced by some pupils.</li> </ol>
Rebus	<ol style="list-style-type: none"> <li>1. Uses a rebus (picture) instead of a word to simplify initial stages of reading</li> <li>2. Well-structured materials.</li> <li>3. Provides for transition to traditional print materials</li> </ol>	<ol style="list-style-type: none"> <li>1. Format appearing immature for older pupils.</li> </ol>

#### Handwriting :

1. Tape alphabet forms to the floor. Have pupils walk or hop around the form. Have them reproduce the form with coloured yarn.
2. Have pupils use a stick (broom handle) and their bodies to form the letters.
3. Write each letter in a paper plate with a red marker. Cover with cornmeal. Have pupils write the letter with their fingers. The red letter will provide feedback for correct formation.
4. Coat cooked spaghetti with vegetable oil. Have pupils form letters with the spaghetti. Coloured letter forms can be used as a guide.

5. Spray shaving cream can be used to form large letters. Butcher paper provides a suitable surface.
6. Have pupils use a flashlight beam to trace letters on a chalkboard.
7. Have pupils form letters in wet fingerprint.
8. Use coloured directional cues such as green arrows and red dots.
9. Teach manuscript letter forms that are oval and slanted slightly. This will encourage left-to-right progression and will facilitate transition to cursive writing.
10. Teach pupils to start all lower-case cursive letters from the line.
11. Help pupils to form an association for a letter they have difficulty remembering. (A=Indian tepee, W=crown).
12. Have pupils orally describe their movements as the letter is being written. This provides auditory reinforcement.

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# MAINSTREAMING EDUCATION OF THE HEARING IMPAIRED CHILDREN

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## Introduction

Integrated education for the special needs children is a major concern of educators in recent years. The Education Act 1981, the Warnock Report, 1978 of England, Act 118 of Italian legislation, PL 94-142 of United States and NPE of its POA, 1986 described the topic as "the central contemporary issue in special education". In Indian context, mainstreaming education for the hearing impaired individual too requires a war footing efforts. Because at present the coverage for education is less than 5 percent. In order to achieve the goal of universalisation of elementary education, it requires to adequately meet the education of the hearing impaired children in mainstreaming system.

Mainstreaming education of the hearing impaired children (HIC) is a debatable issue. When we think of their integration, some basic questions come to our mind- "Why should we educate them with the normal peers?" "What benefit will they derive?" "How will it be possible?" "What are its requirements?" Is mainstreaming an alternative or compulsory? and so on.

This paper examines some of these issues.

## The Concept of mainstreaming Education of the Hearing Impaired Children.

The term mainstreaming in United States, integration in UK and normalisation in Scandinavian countries have the common denominator of educating children with special need, as far as possible,

in ordinary schools. In its widest use "mainstreaming" means combination of different elements into a unity. It is an act of combination of a segregated group with the united whole. In relation to the special needs children, integration means educating these group of children in an ordinary school in a least restrictive environment'. That means it is a process and product of interaction of hearing and hearing impaired children (HIC) in the normal school environment when ever possible. It is a process of education of handicapped and non-handicapped children together within the 'natural' environment in which they can have the maximum association of increasing participation in the educational and social life of school.

In order to achieve the integration in full measure, it must be viewed comprehensively. Warnock(1987) distinguishes three main forms of integration in terms of association, locational; social; and functional, locational integration for the hearing impaired children exists where special units or classes are set up in ordinary school. The social integration is a form where special needs children attend a special class to share their out of classroom activities with other children. Functional integration is the fullest form of integration. A similar form of integration is offered by a Swedish thinker Doder in 1980. He offered four different forms of integration: physical, functional social and societal. These forms of integration model are closely related with Warnock's model of integration.



From the above discussion it can be viewed that integration does not mean the establishment of locational or physical model alone. Integrated education is primarily concerned with the individual development as a whole. It provides numerous opportunities for interaction between children with special needs and their peers at the different stages for the school day; before and after school; assembly; classroom; lunch break; public places like temple etc.

#### Benefits of mainstreaming

In social and emotional dimension, there is a broad consensus among teachers, parents and children themselves that they have benefited in terms of these developments. They develop the self confidence and independence. Integrated education promotes a realistic acceptance for the individuals handicapping condition. Friendly relationship between hearing and hearing impaired children develops and negative relationships such as teasing are comparatively rare. The incidence of untoward behaviour and odd mannerisms is considered to have greatly lessened.

The hearing impaired children becomes increasingly self-sufficient as they experience exposure to hearing classmates, and normal hearing children learn to accept the fact that some people are handicapped and a persons disability is not the most important concern, but that human beings learn to live comfortably with individual differences.

The regular children will come to understand and accept handicapped children in a normal manner.

Parental involvement becomes more possible. Many parents can take an active part in educating the children in their local ordinary schools. Contact between home and school could be possible and can be organised in various ways.

In nutshell the following benefits are derived in the integrated education process.

- \* benefit mutual interaction.
- \* modelling 'good' social benefit and linguistic model.
- \* comply with normalisation.
- \* raise expectation
- \* encouraging parental involvement
- \* sharing expertise
- \* maximum benefit of social normalization

Keeping in view of the above advantages, the movement of total integration was initiated by the Italian legislation one decade before. Italian legislation Act 118 of 1971 made a clear departure from segregation with its requirement that education must take place in ordinary schools except where the child suffers from severe intellectual deficiency'. In recent years the enactment of legislation in many countries like Norway, Sweden, Denmark, US, UK and France have taken place to further the integration of children with special needs. In Britain this has taken the form of an amendment to the 1944. Education Act. In United States legislation there had far reaching effect on every aspect of special education with regard to integration. The Education for all Handicapped Children Act (PL 94 - 142) was enacted in 1975. With

its provisions coming into force over a period of years beginning in 1977. This is major piece of legislation which mandates national commitment to educating all children and youth people with special needs and place them in the 'least restrictive environment'.

#### Disadvantages of mainstreaming Education

The approach of integrated education for the hearing impaired children is no double good. But what about the learning outcome? Can the regular teachers profitably spare their time for the hearing impaired children with their limited expertise and knowledge? Could it possible to meet the individual needs in the ordinary classroom? These issues are to be considered carefully before putting the hearing impaired children in the ordinary school.

1) The assumption of increasing 'social interaction', 'social acceptance' and 'imitation of behaviour of normal peers' is objected by some proponents of mainstreaming. Goodman, Gottlieb and Harrison, 1972 and Iano et al. (1977) found that non-integrated handicapped children are better accepted by their peers than integrated handicapped children. In this situation, if mainstreamed handicapped children are more poorly accepted by their peers, then it follows that mainstreamed classrooms are more restrictive environments than non-integrated classrooms.

2) There is a wrong notion that integration means making the hearing impaired children 'normal'. But in reality integration is a means, not an end itself.

If the residual cognitive ability of the children is properly regenerated even in special schools, they may feel comfort. Because their needs are unique.

3) The teacher pupil ration in most of the schools of the developing countries including ours is about 1:25 to 1:40. Since the size of the class is very big, the regular classroom teacher may not give individual attention to these special need children. As a result the hearing impaired children may feel bored in the regular classroom and may create nuisance.

4) Most of the regular teachers of the ordinary schools have little or no knowledge about the needs of the hearing impaired children. In this situation integrated education may not be suitable for these group of children and it is also possible that the teachers may develop negative attitude toward these children.

5) A broad, balanced and relevant curriculum or national curriculum is going to be implemented in our country shortly. When hearing impaired children are educated along with the normal children in ordinary school, the rate of input in the class is comparatively lower and expected learning outcome of is also lower. In this situation the parents of the bright normal children may not be inclined to send their children to the integrated school. 'Limited academic progress of the ordinary children' may be one of the major cause for which Government of U.S.S.R. have developed negative attitude towards integrated education and till today it is not in operation there.

In this contest several fundamental questions arise. Whether integrated education for the hearing impaired children should be made compulsory or it should be an optional or alternative placement? Can the hearing impaired children be able to face the challenge? These doubts will be cleared if we could be able to compare their intellectual ability and reading level with the same age group hearing peers.

### Conclusion

The World Programme of Action concerning disabled persons, 1983, the International League of Society, 1987. The Education Act, 1981 of England, the commitment of IYDP, 1981 declared the 'equality of opportunity' of handicapped people. They should not be segregated because of their impairment.

Every system has certain limitations. Integration of children with hearing impairment may create certain problem, but the benefit of coverage of large percentage of children can not be achieved unless integrated education is started. Integrated education is a viable solution for the developing countries like ours. Because establishment of special schools for the hearing impaired children in rural areas is impossible and educating the mild group of hearing impaired children in special schools is not profitable. It also requires a lot of financial involvement and resources.

Our NPE-PA 1986 says that there are about 800 to 100 special schools for special needs children including the hearing impaired groups in our country. The NSSO, 1981 indicates that there are about 12 million disabled

persons in our country, out of this, at least 4.3 million disabled persons are of school going age and 1.27 million of school going population is of speech and hearing impaired group. Hence integrated education is required to be started without further delay so as to provide free and compulsory education to one and all. Otherwise the purpose of UNIVERSALISATION OF PRIMARY EDUCATION would be defeated.

As stated previously, integrated education is a means not an end itself. It should be a preferred placement rather than a compulsory one. That means it is not required that all children are to be educated in integrated schools. Education provision must be 'appropriate' as well as being non-restrictive. If placing a child in integrated school were to result in harmful effects or to reduce the quality of education, segregated placement might be required for that children.

Placement of children in integrated schools requires careful consideration. Hence before placing a child in ordinary school, a couple of points is to be considered carefully.

#### 1. School and Classroom organisation:

1) To ensure satisfactory integration programme for the hearing impaired children, certain organisational activities are necessary for adoption. e.g. 'class teachers basic understanding' they should be aware, for example, that hearing impairment leads to delay in reading, speech and language development and that will influence the child's ability to develop other communicative skills.

ii) The teachers should be able to check the functioning of hearing aids and should keep extra battery/cord in the classroom.

iii) The teachers should introduce the classmates to the consequences of hearing impairment and to helpful techniques to improve communication.

iv) Seating arrangement is to be made properly for hearing impaired children where they can hear and lip-read best. Because speech reading or lip-reading beyond 8-10 feet is difficult for the children.

v) To aid speech reading, the speaker should always face the hearing impaired children and avoid standing with their backs to a window or light sources. That means there should be sufficient light to the face of the speaker not to the hearing impaired child.

vi) Exaggerated mouth movement and incomplete sentences while teaching can mislead to the hearing impaired children and it should be avoided.

vii) Gestures, if used, should be natural, not exaggerated as excessive movement can be distracting.

viii) It is helpful to use as many visual cues as possible. Because hearing impaired children are benefited to use eyes instead of ears to receive information.

## 2. Adjustment of Curriculum:

Where ever necessary, the curriculum is to be adopted and adjusted according to the individual need of the child. Because the objectives of education of both hearing and hearing impaired children will be the same. The means by which objectives are achieved may vary considerably.

### 3. Teaching strategies:

Suitable teaching methods is to be followed through systematic activities. Whether it may be manual, aural or oral, speech reading approach. LRS approach or multi-sensory approach, it should be followed according to the individual needs.

Integration of hearing impaired children does not mean squeeze of special schools. There should not be any competition or comparison of achievement between the special schools and integrated units. Rather it should be a preferred placement. Both special schools and mainstreaming education will exist to meet the needs of children. The hearing impaired children those who are not benefited from integrated units may be shifted to special schools. The resource of the special schools may be used according to the demand of the integrated schools. Obviously it is a difficult task, but can be possible if it is properly planned, and prepared from the beginning.



## LOCOMOTOR DISABILITY

Locomotor Disability - Locomotor

Locomotion- ~~move~~

or

Ability to move  
place to place  
independently.

Disability - (Noun) - Render legally incapacity, inability  
while discussing the disability condition we should  
consider two other words Impairment, handicap as prefix  
and suffix.

Impairment - This word is applied at that time when a  
part of body is not able to perform its  
function to its fullest extent.

Example - Burn hand.

Disability - Impairments leads to disability. This word  
is applied at that time where a part of  
body or organ is not able to perform the  
function for which it is meant in a  
normal way.

Handicap - If the disability is not checked by medical  
or other means, it leads to handicap.

## LOCOMOTOR DISABILITY

It is a type of disability where movements of  
our body are affected due to disease, injury, any absence  
of part or deformities in the joints, bones and muscles  
or an injury of nerves, spinal cord or brain.

Locomotor disability arises due to

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Congenital	Cerebral	Stroke,	Paraplegia,	Amputation,
deformities,	palsy			Polio.

Example - C.D.H.

How to identify

- Locomotor disability -
- a) Ask the person to walk few steps.
  - b) Ask the person to lift the arm.
  - c) Ask the person to pick-up any object lying in front of him.
  - d) Ask the person to run a short distance.

Any person shows inability in performing one or more of these test can be consider as locomotor disable . In cases of Children these are not enough grown-up to catch-up the command in their cases motor skill check list help a lot for identification of locomotor disable.

For an example:- 1 Year child be able to do

- a) Reaches for object puts objects in the mouth.
- b) Pulls upto sitting position holding adults finger and sit with support.
- c) Transfer an object from one hand to another.

But child is not doing above activities then first of all wait for some more days, if he/she still unable then you can consider the child as a locomotor disable.

#### Course-VII

##### DISFUNCTION OF LIMBS DUE TO POLIO

- a) Polio is a crippling disease. In the year 1834 it became established as a clinical entity, it is caused by a virus.

VIRUS: It is a submicroscopic pathogen consisting a core of single nucleic acid surrounded by a protein coat having the ability to replicate only inside a living cell.

POLIO: Poliomyelitis, myelitis = Inflammation of spinalcor

Acute anterior polio myelitis = Infantile paralysis Inflammation of the anterior horn cell due to some viruses, of spinal grey matter give rise to a flaccid type of paralysis and it is named as above.

Polio virus is a neurotropic virus, this means the virus has a special affinity to nerve tissue. It also attack the grey matter of brain stem and motor cell of cerebral cortex. The virus is epidemic and sporadic by nature. The virus is water borne by nature and incubation period is 7 to 14 days.

Acute Stage	Signs & symptoms Convalescent	Chronic
Pre-paralytic stage	Paralytic	_____
Acute symptoms Stage	Fever Headache Malaise Diarrhoea Pain in back muscle	
Signs of Acute stage	Pyrexia, lack of rigidity, Kernig sign (Positive)	(Hip flexed to 90 and knee extended if pain indicates meningeal irritation)
	Movements of limbs very painful with increases muscle pain & tenderness	

In acute stage fever comes first for 2 to 3 day, it subsides, reoccur and remain for 4 to 7 days. In second phase of fever muscle paralysis occur, may be one muscle, whole limbs or Motor paraplegia. 48 hours is maximum time of extent of paralysis. The paralysis is typical assymetrical lower motor type of paralysis without sensory loss.

- Treatment in acute stage.
- a) Good Nursing
  - b) Symptomatic treatment for pain with sedation.
  - c) Paralysis become worse if any injection, operation, massage or exercise gave in acute phase so every thing is contraindicated.

Upper limb: Child lie on his back

1. Lift arm over the head & bring it back
2. Move the arm side- ways, rotate the arm and bring to side of bed.
3. Keeping shoulder fixed tell to the child to bend the elbow, if muscle power is grade-3 then allow progressive resistive exercises using different dumb bells.
4. Rotation of arm and tell to the patient to make first and then it also.

CHRONIC STAGE: Most of chronic polio require reconstructive surgery and then physical treatment.

#### PREVENTION

Immunisation process is best method to prevent polio at the age of 2 month - O.P.V. (Oral Polio Vaccine) given first.

5 doses with one month interval is given. At the age of 18 months the boost 1 dose is given. If the child is having

- |               |  |                                                            |
|---------------|--|------------------------------------------------------------|
| a) Mild fever |  | O.P.V. should not be given at the time of these condition. |
| b) Cough      |  |                                                            |
| c) Diarrhoea  |  |                                                            |

#### P A R A L Y S I S

Paralysis: When we can not move our limb completely to our desires.

Paraparesis:--When we move our limb partly on desire. In both the cases full range of motion is concerned in paralysis R.O.M. is completely damage and in paraparesis R.O.M. partially damage.

Cause:-- Diseases of muscle, brain and spinal cord Trauma to muscle, brain and spinal cord.

Name of some paralysis condition:	Excluding Polio:
	a) Hemiplegia
	b) Paraplegia
	c) Quadriplegia

Hemiplegia: Involvement of one side of body

Example: Stroke

Paraplegia: Involvement of both legs	Example Trauma to spine.
Quadriplegia: Involvement of 4 limbs	

Diplegia: Involvement of 4 limbs with the leg more affected than arm.

Triplegia: Involvement of 3 limbs

Monoplegia. One limb affected

#### JOINT PAINS OTHER CAUSES

Basically we see pain in joints as a result of injuries (FRACTURE) Disease (Tuberculosis of spine, Hip etc.)

#### SPRAINS:

Incorrect position of weight bearing (Flat foot) undue stress over joint also produce pain in joint, it may be due to synovitis.

Synovitis: Inflammation of synovial membrane of joint repeated injury or strains also cause synovitis. Arthritis also produce pain in joints. It is a inflammatory condition of whole

### Rheumatoid Arthritis

It is more common in case of women.

It is thought to be a toxic or a bacterial condition. A faulty metabolism also produce Rheumatoid arthritis in fact its nature of occurrence is not fully understood till yet.

### Osteo-arthritis

It is a disease of old age. May be due to strains to which joints have been subjected in the course of life.

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### DYSFUNCTION OF LIMBS DUE TO AMPUTATION

A person who loses a part or whole of a body is called an amputee.

An amputation usually a unavoidable result of accident or disease. It is a treatment not a tragedy.

### Indication for Amputation Based on Three 'D':

- |                  |                                                                                                   |
|------------------|---------------------------------------------------------------------------------------------------|
| 1. Dead or Dying | a) Severe trauma                                                                                  |
|                  | b) Burns or frost bite                                                                            |
| 2. Dangerous     | a) When some thing will produce malignancy.                                                       |
|                  | b) Crush injury.                                                                                  |
| 3. Damn Nuisance | a) Condition worse than no limb at all, example:-Peripheral vascular disease like Burger disease. |
|                  | b) Gas gangrene                                                                                   |

Implications of dysfunction caused by problems of movement of limbs or absence of limbs for education and teaching.

Disable persons are of two types, some are hypersensitive to their disability thinking that they are objects of bad comment in the society some feel guilty themselves for their disability and become depressed, that mean in other words these peoples mind is not well prepared to accept the condition as they are. For the former one that is hypersensitive quality can be

removed by removing spoken and unspoken comment of society by virtue of social workers. The second type of thought can be removed if the disable can be taken to group work, where he/she can see meet with others who have already undergone the same catastrophe.

Physical disability tends to disrupt the equilibrium of once life and removes the individual from normal social experience and from work situation, due to two major factor; 1) Self-satisfaction, 2) Self-esteem. Encouragement quality therapists, teachers help a lot to locomotor disable in learning self care activities and other subjects also. Removing conditioned things like steps in front of college, schools also help in learning to locomotor disable.

Locomotor disable in intellect and personality are some like normal man so after full filling Physical needs like shelter, food, opportunity for activity, rest and mental health such as Affection, security, sense of belonging of personal worth, encouragement to learn from experience, opportunity to achieve success in some field of endeavour they can be well educated and they can also teach others.

In case of a bilateral amputee if up right posture and locomotion can be maintained by means of any orthosis and prosthesis and physical, mental health is maintained then infinite variety of effective attitudes and activities will come out. The positive attitudes towards learning can be also establish if we encourage the disable working capacity, brought an awareness of Government facilities such as concessions, scholarships etc. and follow-up disable

Some architectural modification to bring integration in the society as well as community. For example somebody is constructing a house. During the construction he should construct steps as well as ramps fairly levelled, just not to make any locomotor disable feel the forgotten physical loss. If the house is without ramp the locomotor disable may feel that he is not self-supporting and self-reliant of today's first moving society.

Orthopaedic handicap intellect and personality are same like normal man. Every handicap can learn everything by intellectual and emotional processes. Suppose a bilateral upper limb amputee can not gather the sense of crystal or amorphous quality by hand but he can know it by other means, that means by other part of body. As we know audiovisual factual system of learning is more effective in comparison to verbalizing learning process, so this can be applied to orthopaedic handicap, or amputee.

But as far as laboratory experiments are concerned the orthopaedic handicap may face some difficulties as because artificial limbs may not be able to give firm grip etc. so here experimental apparatus and work table requires some modification. The handicap may be provided with thick holder which will help to grip firmly with artificial limbs and a low work table may be allowed for the experiments etc. So with minimal modification many orthopaedic handicap can read in normal schools with science subjects also, and they will be not deprived of, they can be supplied with equal lesson plan as that we provide to normal students.



COURSE - VII

Unit-3

PHYSICAL EDUCATION & GAMES FOR CHILDREN  
WITH LOCOMOTOR DISABILITY

Physical education is aimed to develop body and muscle power for healthy life. Physical education also help to develop tissues and other organs of body. Physical education and games provide proper circulation and help to acquire nutritive value. It also help to lungs and heart in functioning well.

Physical education and games helps in removal of waste product of body in the form of sweat and other elements. Physical education also help to the functioning power of kidney that which is responsible for the excretion of toxic waste.

Physical Education  
and Games

Produce corrective benefits such as:

- i) Mental strain is removed and the body and mind become fresh.
- ii) Deformities of bodies caused by wrong postures such as curvature of spine are removed.

Physical Education  
and Games.

It also helps in development various mental faculties such as:

- i) Power of judgement
- ii) Power of tolerance
- iii) Power of determination

Moral benefits of  
Physical Education  
and Games.

It teaches us:

- i) Discipline
- ii) Self-control and self-confidence.
- iii) Mutual helpfulness
- iv) Courage.

Everybody should think about following factor before allowing any game to locomotor disability.

GAME	How	Weight (strong, light, heavy)
		Time (Rhythm, Quick, Slow)
		Flow (Continuous, Broken)
	What	(Body awareness)
	Where	(Sphere of movements)

Capacity of playing depends upon

- Brain and the spinal cord
- Motor nerves functioning ability
- Muscles and joint function.

Fatigue:- It is nothing but a sum of total of those factors that are responsible for diminishing the working capacity or physical efficiency.

Physical exercise may be in forms of games and physical drill, physical limitations of the disable should always be kept in mind before suggesting any sorts of game or exercise.

Throwing a ball and receiving it is a best game for a paraplegics to maintain trunk and arm health locomotor disable can be allowed to play table tennis with wheel-chair. The wheel chair must very heavily padded with rubber with the same wheel-chair position a locomotor disable can play basket ball or not ball play as a outdoor game. Archery is also one of the best activities for a paraplegic or locomotor disable. It provide to stimulus to develop the shoulder girdle muscle.

Throwing Javelin is also a good game for locomotor disable like paraplegics which help to develop the upper limb muscles. Hammer throw, Ring-ball play are best games

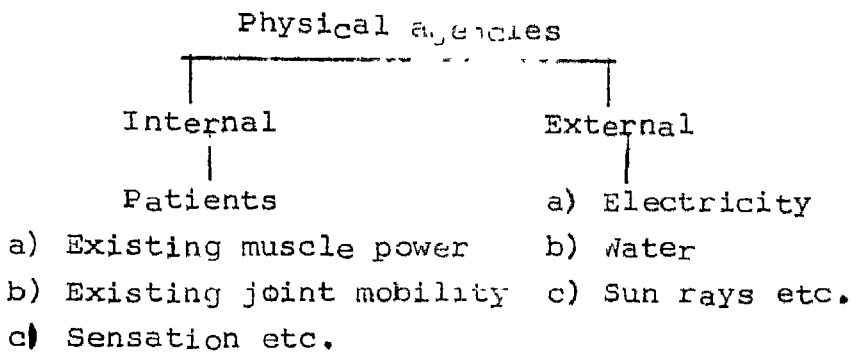
of out-door type for locomotor disable. He can play with a wheel-chair very well. Chess, playing cards can be choised for indoor. Locomotor disable who are confind to wheel chair among them if any school want to conduct any sorts of sports they can select games like "Thread and needle race, Pull ofwar, cricket ball throw etc. It is a prime duty that before conducting any sports or allowing the locomotor disable to play any game his/her physical limitation should always kept in mind and lot of preventive measure should also be taken everytime.



## PHYSIOTHERAPY

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Definition: Treatment of patients utilising physical agencies in order to improve efficiency of muscle, joint mobility, co-ordination gait etc.



Methods of Physiotherapy: The methods used in physiotherapy to treat patients are a) Exercise therapy  
b) Electrotherapy, c) Hydrotherapy, d) Massage etc.

a) Exercise therapy: It is a method in which various techniques of exercises are given.

It can be active or passive exercises. Active exercises are those exercises which patient himself can do actively. Further it can be classified as follows:

- a) Free exercises - Patient himself doing the exercises in a said pattern using his muscular effort without any external assistance or resistance except that of gravity.
- b) Assisted Exercises: When the patients does the movement himself partially, an external forces is given to assist the working muscle.
- c) Resisted exercises: External force is given to the working muscle to improve the strength of the muscle.

**Passive Movement:** When a patient could not do exercises or movements himself, an external force is applied to perform the movement.

**Uses:** Active exercises help to maintain or improve the muscle power, joint mobility, balance, and posture .

Passive exercises help to maintain or improve joint mobility.

b) Electrotherapy: In this method of physiotherapy, various electrical gadgets are used.

(e.g.) Electrical stimulation - to activate a muscle which loses its nerve supply, when a muscle can not work actively due to lack of nerve supply.

**Heat treatments:** Shortwave Diathermy, Waxbath, etc, These are given to improve circulation, to relieve pain and obtain relaxation.

k) Massage                      k) improve circulation

l) Physiotherapy              l) Patient's muscle power

7) Say true or false

- a) Physiotherapy is treatment using chemical agencies
- b) Water is an internal agency used in physiotherapy
- c) Existing or available joint mobility is an internal agency.
- d) Exercise therapy is a method of treatment by electrical means .
- e) Active exercises are done by external force.
- f) Free exercises are the exercises done by patient himself.
- g) Assisted exercises are given to maintain the muscle power.
- h) Assisted exercises are done using some external force to assist the working muscle.

- i) Resisted exercises are to improve muscle power.
  - j) Heat treatments are given to improve circulation.
  - k) Electrical stimulation is given to a muscle which loses its nerve supply.
  - l) Massage is given to improve muscle power
  - m) Massage is given to improve circulation, relaxation etc.
- c) Hydrotherapy: Exercises are given inside water tank or pool.
- d) Massage: Scientific moulding of various tissues of the body in order to improve circulation to obtain relaxation, to relieve pain etc.

Model Questions:

1. Define physiotherapy
2. What are the physical agencies used in physiotherapy
3. List the methods used in physiotherapy.
4. Write short notes on exercise therapy.
5. What are the uses of electrotherapy
6. Match the following:

a) Internal agency	a) Scientific moulding of tissues
b) External agency	b) External force assisting movement.
c) Hydrotherapy	c) Water tank
d) Massage	d) Electricity
e) Free exercises	e) Exercise in water
f) Assisted exercises	f) External force producing movement.
g) Resisted exercises	g) Patients' own muscular work.
h) Passive movement	h) Denervated muscle
i) Electrical stimulation	i) Improve muscle strength
j) Hydrotherapy	j) Physical agencies.

Course-II

Unit-4.

Crutches and Walking aids

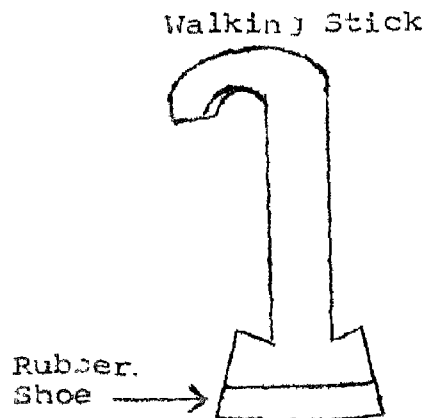
Walking aids fall into three categories.

1. Sticks
2. Crutches
3. Frames

The walking aids are used to give more stability while walking or standing, during weakness or paralysis of lower limbs.

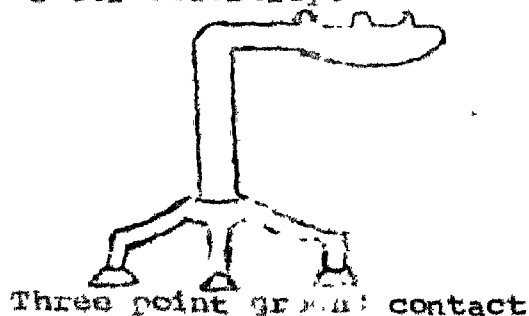
a) Sticks: When the assistance to be given is at lowest level walking sticks are given

Types of Sticks: i) Ordinary Walking Stick.



While using single walking stick, it should always be given to the opposite side of the effected lower limbs i.e. if a patient has some problem in his Right leg, and the stick must be given to left side.

\* ii) Tripod stick: This has 3 point ground contact for better stability.





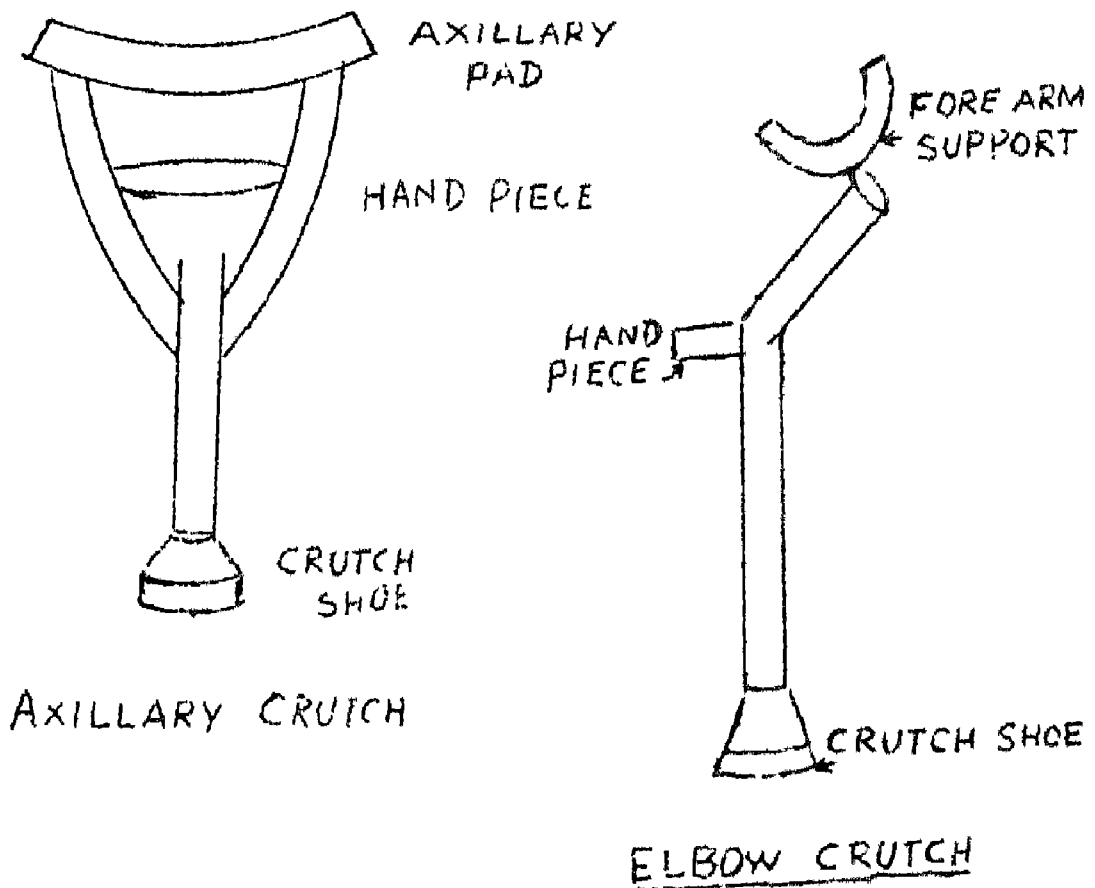
B) Crutches: Crutches are given for the patient who is an amputee (a person whose part of the body has removed by surgical means) and those who are fitted with braces.

Types of Crutches: a) Axillary Crutches

b) Elbow Crutches

a) Axillary Crutches: The person uses the axillary crutches rests the upper part (axillary pad) of the crutches under his axilla and walks.

While given crutches, always give two crutches. Never give one crutch only. All the crutches must have crutch tip/crutch shoe.





# CURRICULUM AND TEACHING - PRINCIPLES AND PRACTICE

Dr. V.V. Das

## 1. Principles of Curriculum:

By 'Curriculum', we mean the sum total of learning experiences given/planned to be given to the learners. Courses of Studies refer only to the content of Knowledge/information to be imparted to the learners. The curriculum is more than the courses of studies, it includes the objectives of teaching in terms of expected outcomes of education, the methods of transaction of teaching-learning process, and the evaluation of learning. The evaluation should indicate whether the expected outcomes have been achieved. In planning Curriculum, the objectives, the content, the methods of teaching and evaluation - all have to be specified in detail. Curriculum planning is based on certain principles; some of the important ones are:

- Relevance to environment
- Relevance to Child's need
- Relevance to subject discipline
- Flexibility.

We shall consider these principles in relation to planning the curriculum for the disabled children.

### (1) Relevance to Environment:

The Curriculum should be relevant to the environment. This means that the Curriculum should enable the child to deal effectively with his environment. The Child's environment not only includes the natural and physical environment, but also the social, political and educational environment.

The natural and physical environment includes the plants and animals, as well as houses, vehicles, instruments and other objects used in the child's environment. The child should understand his role in relation to these aspects of his environment and deal effectively with them.

The social environment includes the home and members of the family, the school including its personnel, the community and its people. The child should understand his duties and responsibilities in relation to all members of his social environment. He should know what help he can expect from them and what help he can give to them.

The political environment includes the government and how it functions at different levels - local, state and federal. It includes the processes of election, administration and justice. The child should know his rights and privileges as a citizen and how he can exercise them and at the same time his responsibilities towards the government. He should particularly know what provisions there are for the welfare of the disabled.

The educational environment includes the knowledge and its development in the world and how it affects our daily lives. It also includes the provisions for education and information, both formal and informal including the role of the press, the radio and TV.

## (2) Relevance to Child's needs:

The Curriculum should be relevant to the needs of the child. The needs of the child may be classified as physical, intellectual, emotional - social and vocational.

The Curriculum should take into account the physical growth and development of the child. For this purpose it should provide appropriate health education as well as physical education. While doing so it should consider the age and ability of the child. In case of the disabled child, the child should be given instructions to take care of its disability while at the same time taking part in such physical activities which he can do with or without mechanical aids/appliances. While some activities can be common for the disabled and normal children, other activities/games can be organised for special groups of disabled children. Special physical and medical care should however be provided to the disabled so that they can perform all activities without much difficulty. Architectural barriers should be removed for movement of orthopedically handicapped. Glasses and hearing aids given to the partially sighted and hard of hearing.

Except mentally retarded children, other disabled children are intellectually as good as normal children. So their intellectual needs are same as those of normal children. They will have the same curiosity to know all about their environment and to find solutions to problems that they face. So the content of the curriculum for these children need not be different for the disabled from those for normal children. However some supplementary instructional materials may be prepared for each category of the disabled. In case of the educable mentally retarded, their intellectual level is same as those of children younger to them by 2 or 3 years; so they should be placed in a class with children

younger to them by 2 or 3 years. They should be taught more slowly, with more concrete aids, and with more repetition of same information. They should be continuously encouraged to learn and never scolded.

Every child has emotional needs. Every child, more so the disabled child, needs to be loved, needs company, needs praise and needs feeling of security. The curriculum and the school environment should provide for these emotional needs. The child's development is hampered if it feels unloved and unwanted, considered inferior to others and feels threatened by his peers or teachers. The child has social needs. So the Curriculum should provide for group activities by children group activities in which children and adults take part. In case of disabled children, the school should specially arrange for their social activities. The school should also help parents in taking care of their life at home.

The children have also vocational needs. When they complete school education, they should have some vocational skills so that they would not be dependent on others. Apart from intellectual skills of reading, writing, and arithmetic, the children should also be given some manipulative skills which they can do. If needed, the disabled child can be given more intensive training in some manipulative skill and vocationally employ.

### (3) Relevance of subject discipling:

In planning curriculum, first the objectives of education are specified. Both immediate objectives and long term objectives are determined and these are so

chosen and stated that they are observable measurable. They are usually stated in terms of knowledge and understanding, skills and abilities that the student should acquire and changes in his personality, attitudes, appreciations etc. that are to be effected. The content of the curriculum is chosen so as to achieve these objectives. The content is generally organised in the form of subjects of study such as Language, Mathematics, Social Studies, Science etc.

Since the Curriculum is developed around some subjects of study, while dealing with each subject, it should be relevant to the subject discipline. Each subject of study has its own discipline which is expressed in its logical sequence, systematic method in its processes, its own rules and applications in daily life. In developing the curriculum, all these aspects of the subjects should be taken into consideration.

In teaching a subject, the logical sequence in which the constituent units of the subject should be developed should be noted. If this sequence is not followed, the subject loses its continuity and appears disjointed. The student will not see the relationships between the different parts of the subject unless they are dealt logically. Further if the logical sequence is not followed, those units, which are taught without teaching the earlier units on which they are based, will not be understood by the students, for example; if you teach multiplication before teaching addition, the student will not understand, for multiplication is logically based on addition.

A subject has its own systematic method. This method should be explained and followed. For example addition of numbers is done in a particular method, multiplication has its own method. In language an essay is written in one way, a letter to a friend in a different way. In the curriculum, all these methods should be learnt in relation to the subject.

A subject has its own rules. In language, the rules of grammar are to be learnt and followed. In Mathematics, various formulae have to be learnt and used in solving problems. Rules express the relationships between different concepts and ideas in the subject.

A subject has its own applications in life. In learning the subject the student should learn how he can use what he has learnt in his daily life. Language he uses in communication of his thoughts, mathematics in shopping, measuring and solving problems involving numbers, science he uses for healthy living as well as in leading a comfortable life, social studies helps in understanding his role in society.

#### (4) Flexibility:

Flexibility of the curriculum means the degree to which the curriculum can be varied to suit to particular conditions. If everything in the curriculum is fixed and common to all pupils for all places over a period of years, the curriculum is not at all flexible. Flexibility in the curriculum gives the teacher the freedom to make variations in the content, method of teaching and evaluation procedure to make it more suitable to particular conditions.



A flexible curriculum gives only broad guidelines regarding objectives, content, method of teaching and evaluation. Within these guidelines, it gives much freedom to the teacher develop the details of the curriculum. Flexibility can be considered in relation to 'time', place, pupils and school facilities.

A flexible curriculum should cater to individual differences among pupils. For this purpose often the curriculum is made of two parts - core curriculum common to all pupils and an optional curriculum which the pupil chooses depending on his own interest. To provide for flexibility over space the N.P.E. prescribes a national curriculum consisting of a core curriculum which is common all over the country and another part which varies from place to place. In this way the curriculum can preserve the national unity and culture and at the same time, the local state culture can be given its due place in the curriculum. Flexibility should also allow differences in the physical and natural environment to be reflected in the curriculum.

Flexibility should not only allow for differences in interests of pupils but also for their abilities - both physical and mental. Although content may be same for visually auditory and orthopaedic disabled children as for normal children, the methods of teaching will vary. Also supplementary instructional materials which differ from one disability to another should be prepared and used. The mentally retarded has to be given a much lower level of curriculum. Evaluation should take into consideration the nature of disability. For visually disabled children, the curriculum should provide more

audio experiences using audiotapes and cassettes. Also tactile experiences are given. For auditory disabled (hearing impaired) children., more visual experiences through models, pictures etc. should be provided. While providing practical activities and extra-curricular activities, the disability of the children should be considered and such activities as the children can do should be are assigned/provided to them.

Flexibility should take into account differences in physical facilities of the school. A school can implement a curriculum for which it has necessary facilities. So the flexibility in curriculum should be provided so that the school can make adjustment of the curriculum to suit its facilities. A curriculum should also change with time. Flexibility should be provided so that the curriculum is re-examined every year and desired changes are brought about to make the curriculum suitable to the changing conditions of the society/country. The curriculum should also present upto date knowledge about places, people and things mentioned in the curriculum.

## Unit-2

### Curriculum Adjustment and Adaptation to Special Needs.

The curriculum in the school is generally prepared keeping the normal child in view. The principle of flexibility of the curriculum should allow suitable modifications in the curriculum to suit to special needs. We have also seen that children with sight hearing or orthopedic disability have the

same level of intelligence as normal children and can be given the same level of curriculum. Children with learning disability can also follow the same curriculum provided remedial action is taken to overcome their learning disability. Educable mentally retarded children however are less advanced mentally and should be placed in a class two/three years lower than their age. However some curricular adaption have to be made to the curriculum for each of the kinds of children with disablement. The nature of adaptation depends on the nature and level of disability. The following principles should be considered for adapting the curriculum for the disabled studying in regular schools.

- the adaptation should not change the Original concept of the curriculum.
- Compensatory activities should be planned in such a way that the child gets a wholistic picture of the concept taught in regular classes.
- modification in the instructional material should not disturb the majority of normal children studying in IED classes.

A possible strategy of adjustments in the instructional material can be:

- outlining the proposed teaching and learning points,
- analysing the needs and type of adjustments at various levels,
- planning the adaptation in instructional material and methodology,
- preparation of supportive materials, and
- planning of group activities in the general classrooms.

Adjustment of instructional material and methodology can be made in the following ways:-

- (1) Without change in regular teaching
- (2) With supportive aids, and
- (3) With resource teaching.

(1) Adjustment without change in regular teaching:

Here the teacher only makes adjustments in the physical environment, such as:-

Hard of hearing children are asked to sit in the front benches,

Partially sighted are given large print materials and magnifying glasses,

Braille script is given to the blind child,

Adjustable furniture provided for orthopaedically handicapped,

Correction of specific learning problems of learning disabled children is done through participation of normal children.

(2) Adjustment with supportive aids:

Here the teacher provides appropriate supportive aids to each kind of disabled children to teach the same concepts as taught to normal children.

Recorded tapes can be used to correct speech problems of hearing impaired. The sounds should be recorded in minimum phonetic pairs. In addition the teacher can give visual materials to match the given sound. Thus the teacher can help the hard of hearing in learning the alphabet and the normal children in learning correct pronunciation.

The blind child can be given tactile material to match the sound.

The orthopaedically handicapped do not require supportive aids for learning the concepts taught to normal children. The child with upper limb impairment is given prosthetic aids and physiotherapy for

adaptation of limbs. Thick pencils or pens are provided for easy holding.

The educable mentally retarded is given additional workbooks for repetitive exercises.

(3) Adaptation with resource teaching:

The teacher should identify the learning difficulty of the disabled subject wise and suggested remedial exercises, but these exercises should be organized by the resource teacher outside the class, by a special arrangement of the time table within the normal school hours.

For example, if the hearing impaired is unable to learn speaking the sounds "Oh," "th," "dh" etc., the resource teacher can arrange corrective exercises to teach a particular sound. If a blind child is a poor braille reader due to faulty movements of the finger tips, the regular teacher should take the help of the resource teacher for correcting his problem.

Guidelines for adaptation in instructional material and methodology disability wise is given below:

Hearing Impaired:

Due to improper hearing inputs or lack of them, such children have more deficits in acquisition and retention of language. They have problems in learning correct articulation and in acquiring speech and language skills at the initial stages. But if they are given adequate training in speech correction, their speech and language acquisition and retention is like normal.

For teaching the hearing impaired in a regular class, the teacher needs to adapt the curriculum on the basis of the following points.

- More visual cues should be provided to compensate for auditory deficits. Writing the letter, showing how the correct sound of pronunciation is made, making the child touch the vocal chords while pronouncing, and practice is minimum phonetic pairs are some of the methods used for teaching correct pronunciation and spelling. Additional work book can be given to them for writing and learning spelling and pronunciation.
- The hearing impaired require a wholistic perception for understanding any concept. A list of all features and objects given in a particular lesson should be given to them earlier, so that they can see and observe the differences in the objects/concepts to be taught in IED class.
- Substitute the activity which does not provide same learning experience. If the child can not articulate a word correctly but knows its meaning and can use it in written sentence correctly do not emphasize on correct articulation.
- Wholistic method should be used to teach language skills.
- Language teaching should be related to child's experiences. New words and phrases should be taught by associating them with concrete objects and situations.
- Emotional concepts and difficult phrases should be taught using action oriented situation.
- Abstract concepts are taught using visual aids, role playing and dramatization.
- Short question - answer method should be used for oral participation.
- Poems should be taught for rhythm. Usage of similes confuses them.
- Supporting exercises are given for learning correct reading and writing.

Visually Impaired:

Visual impairment restricts a child's learning environment to auditory and other senses. For learning about size, colour, weight and emotional expressions, the blind may face more difficulty than the partially sighted. The teacher has to provide learning experiences in smaller units. For example, the essential attributes of a 'beautiful' flower' can be for this child, the pleasant smell of the flower, the freshness of the flower and the thickness of the flower.

The guidelines in adapting the instructional material for visually impaired children in IED are:-

- More auditory and tactile aids should be given to compensate for visual deficits.
- More verbal cues should be provided for explaining concepts.
- Three dimensional aids should be provided to children to provide a whole experience of the concept.
- The child should be allowed to manipulate the learning aids.
- Essential attributes of the concepts should be determined in the light of the child's limitation and taught one by one.
- Compensatory aids like cane for mobility, braille slate and stylus for learning to read and write, abacus to learn numerical concepts and brailler for taking dictation in class should be provided.
- A multisensory approach should be used to provide complete learning experience to the child.
- The adaptation of the instructional material should be in terms of verbal instruction.
- The use of additional and supportive material should not disturb other children in the class.

- The teacher should avoid the use of instructions like 'see', 'look' etc. which require the use of vision.
- The teacher should ask the resource teacher to prepare additional and supportive material in braille and large print before taking the lesson. Normal children can also help in preparing tactile aids in IED settings.

#### Mentally Retarded:

- Mentally retarded children require plenty of rest between instruction as they have short attention and memory spans. School time table should be adjusted so that periods of rest and play are provided in between.
- The learning activities should be organized through games, physical activities and music which form a permanent impression on their minds.
- The teachers should follow a strict development sequence for teaching basic skills. Sufficient practice should be given to them in learning the basic skills.
- Adaptation of instructional material and methodology should be in terms of developing cognitive abilities and muscular coordination.
- Activities requiring coordination of hand and eye movements.
- Activities which help in memory skills.
- Activities in developing sound discrimination.
- Activities which promote linguistic competencies, completing sentences, reading, writing skills, developing perceptual ability.
- Encourage children to choose learning activity of their interest.
- Provide necessary aids and supportive materials to learn the concept adequately.
- Environment of the class should be conducive to allow development of their potential to the maximum degree.
- Help them in developing socially accepted behaviours.



Orthopaedically handicapped.

These children require prosthetic aids and appliances and physiotherapy. They can be taught in the general classroom. They require adaptation in physical environment.

- Arrange seating in such a way that their movement does not disturb the class.
- Children with lower limb problems need crutches, wheel chairs, braces, hand rails etc.
- Children with upper limb problems need to have their books fixed on lap boards, require page-turner, thick pens, pen holders for reading and writing purposes.
- As the child grows, the artificial limb or brace used need to be changed. (They rarely fit for more than a year). Recommend help of a prosthesist.
- The height of furniture used should be adjusted so that it does not interfere with the function of prosthesis used.
- Postural habits should be observed so that children do not develop wrong postures.
- Children with health problem like arthritis, cardiac diseases should not be given prolonged activities like writing.
- Normal children should be told not to tease the children or hide their prosthetic aids.
- Adapt physical exercises to provide proper muscular exercises.

Learning Disabled:

These children make some kind of mistakes repeatedly either in writing, reading or arithmetic.

- Give exercises to the child in identifying the letter or number, which he has difficulty in writing, speaking or recognizing.

- Give exercises which provide feed back of the same letter in different shapes, sizes and colours.
- Letters or words which resemble each other, either visually or auditorily should not be taught together.
- Sensory experience should be provided to copy letters correctly and verbalize differences.  
For example on, not saw and was.
- Ensure that the child is continually busy and interested in the task during teaching session.
- Give easier exercises first which the child can master.
- Learning tasks should be divided into small groups so that the child feels he has mastered the task.
- Give the child a paragraph in which he has to underline a particular letter or word as quickly as possible.
- Encourage the child to perceive the words as a whole rather than through identification of individual letters.
- For a child having difficulty in memorising time tables help him to memorise by explaining number relationship clearly.
- For improving reading and writing skills, give dictation of words of graded difficulty and exercises in single words, simple sentences and gaps in paragraphs to fill.

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## INSTRUCTIONAL RESOURCES

Dr. Tapati Dutta,  
R.C.D., Bhubaneswar.

Instruction involves a number of factors like the teacher, the taught and the ~~world~~ through which the instructional objectives are to be achieved. Therefore, effective transaction of the texts are very important for successful teaching in the class. Hence the question arises should we have the same textual materials for normal as well as handicapped children?

### Textual Material for all students:

Instructional objectives and learning outcomes for both normal as well as handicapped children are similar in a classroom setting. Usually the text books are designed for the normal children. The text books as such can not be used by the handicapped children effectively. The textual materials used by the normal children are inadequate to achieve the instructional objectives by the handicapped children. They are also insufficient to bring learning outcomes of the handicapped children on par with normal children. As a result of this, the material of adaptations and adjustment of instructional Materials become inevitable in the educational process of handicapped children.

### Textual materials for unique needs of children with special needs:

The learning experiences ordinarily planned for normal children may not be relevant and/or adequate for the children with special needs. They need different type of learning experiences according to their disabilities. Hence little modification of the content, method of display and response expectations are very essential for effective transaction of the texts. Here comes the

concept of Adjustment Instructional Material. The adjustment material refers to special approaches and presentation styles required for providing optimal learning experiences to the handicapped children in the regular classroom. It is the process of making necessary changes such as modification alteration, substitution compensation etc., without changing instructional objectives and learning outcomes. The adaptation may be in terms of teaching methodology, special approaches, teaching aids, presentation styles, evaluation, enriching assignments etc. Children learn through various sense experiences like by seeing, hearing, touching and smelling etc. The handicapped children are deprived by one or more of these sense organs which limits their sense experiences consequently their learning is affected. Hence, multisensori approach has to be followed in order to compensate their limited sense experiences due to their disabilities. Adjustment of instructional material and methodology is planned according to the need of the children belonging to various categories of handicaps. However, the adjustment is planned in various ways.

A. Adjustment of Instructional Material and Methodology without any change in regular classroom teaching.

Simple modification of physical environment of the classroom enable the handicapped children to participate in classroom activities equally with normal children.

- Asking partially hearing child to sit on the front bench, so that he can hear better.
- Providing for a pair of magnifying glasses to help partially sighted.

- Braille script and slates can be provided to the blind children.
- Adjustment furniture enables the orthopaedically handicapped child to function normally.

B. Adjustment of Instructional material for hearing impaired children. \_\_\_\_\_

They generally have misarticulation problem. They commit spelling mistakes as they write in the way they speak, e.g., 'tigər' for 'tiger'. The hearing impaired children require a wholistic perception for understanding concepts. Therefore some precautions has to be taken while adapting the materials and methods while teaching hearing impaired children.

Guide-line for adaptation:

- More of visual cues have to be provided to compensate hearing deficits.
- Models and charts has to be used more frequently for more clarity.
- For teaching emotional concepts, the teacher has to take the help of action oriented situations e.g., dramatize the expression of happiness and unhappiness, crying shouting etc.
- Hearing impaired children have more problem in learning language. The phonology, semantics and structure of a language should not be taught in isolation. If there is a problem in learning a particular component of language, then remedial adapted lesson should be planned e.g. use substitution table and structural approach.
- Role playing and dramatization help the hearing impaired to understand abstract concepts.
- Single word question and answer method should be followed for oral participation of hearing impaired in IED class.

- The hearing impaired require supporting exercises for learning correct reading and writing skills, in the beginning.

C. Adjustment of Instructional Material and Methodology for Visually Impaired Children:

A lot of adjustment of instructional material and methodology is required in order to integrate the partially sighted and blind children. Partially sighted have to be provided with large print materials, magnifying glasses and adjustable furnitures. However, integration of completely blind needs learning the braille script and use of abacus.

Guidelines for adaptation:

- More of auditory and tactile aids should be used to compensate visual deficits.
- Three dimensional aids, embossed maps and charts should be used to concretise the abstract concepts.
- More of verbal cues should be provided while explaining concepts in the class.
- Compensatory aids like cane for mobility braille slate and stylus for learning to read and write braille, abacus to learn numerical concepts and brailler to cope up with speed of taking dictation in general classroom.
- The teacher should avoid the use of instructions like 'see' 'look' etc. which needs use of vision.
- The resource teacher should be asked to prepare additional and supportive material in braille and large print.

D. Adjustment of Instructional Material and Methodology for Mentally Retarded Children.

Integration of mentally retarded children is more difficult than that of the blind and deaf children. Integration of Educable Mentally Retarded

(EMR) is proposed only at the primary level. Moreover these children go to the school unidentified as having any problem as the disability is not obvious and can not be observed directly. Hence they need more careful observation and alertness by the parents and the teachers while dealing with them.

Guide line for adaptation:

- Instructional material and methodology has to be adapted according to the development of cognitive abilities and muscular coordination.
- Adequate rest between the instructions has to be provided as the mentally retarded children have very short attention span school time table should be flexible enough to adjust the periods of rest and play alongwith the instructions.
- The learning activities should be organized through games, physical activities, music which help to form permanent, impression on their minds.
- The teacher should follow a strict developmental sequence and task analysis for teaching basic skills.
- Sufficient drill and practice should be given to them because they need over learning for proper retention and implementation of the skills they learn.
- Activities requiring coordination of eye and hand movement, has to be included.
- Activities which help attention and memory skills, should provided.
- Activities which improves linguistic competencies like, readingl writing, comprehension, have some place.
- Encourage children to choose learning activities of their own interest.

- Provide necessary aids and supportive materials to concretize the concepts.
- Help them to develop socially accepted behaviours.

E. Adjustment of Instructional Material and Methodology  
for Orthopaedically Handicapped Children:

These children can be caught in regular classroom as they are mentally just like normal children. They require some prosthetic aids and appliances and physiotherapy in order to compensate their disabilities. They do not require any adjustment of textual material or methodology rather some adaption of physical environment is essential.

- Seating arrangement should be such that their movement will not disturb the class.
- Children with lower limb problems, need crutches, wheel chairs, braces, hand rails etc.
- Children with upper limb problems need to have their books fixed on lap boards, required page-turner, thick pens, pen holders for reading and writing purposes.
- As the child grows, the artificial limb or brace used need to <sup>be</sup> changed. (They rarely fit for more than a year ). Recommend help of a prothesist.
- The height of furniture used should be adjusted so that children do not develop wrong postures.
- Children with health problem like arthritis cardiac diseases should not be given prolonged activities like writing.
- Normal children should be told not to tease the children or hide their prosthetic aids.
- Adapt physical exercises to provide proper muscular exercises.



Learning Disabled:

These children make some kind of mistakes repeatedly either in writing, reading or arithmetic.

- Give exercises to the child in identifying the letter or number, which he has difficulty in writing, speaking or recognizing.
- Give exercises which provide feedback of the same letter in different shapes, sizes and colours.
- Letters or words which resemble each other, either visually or auditorily should not be taught together.
- Sensory experience should be provided to copy letters correctly and verbalize differences. For example on, no; saw and was.
- Ensure that the child is continually busy and interested in the task during teaching session.
- Give easier exercises first which the child can master.
- Learning tasks should be divided into small groups so that the child feels he has mastered the task.
- Give the child a paragraph in which he has to underline a particular letter or word as quickly as possible.
- Encourage the child to perceive the word as a whole rather than through identification of individual letters.
- for a child having difficulty in memorising times & tables, help him to memorise by explaining number relationship clearly.
- for improving reading and writing skills, give dictation of words of graded difficulty and exercises in single words, simple sentences and gaps in paragraphs to fill.

DISABILITY-WISE INVENTORY OF EQUIPMENT AND MATERIAL

Disability	Individual	Aids and equipment sharing within school	Sharing amongst schools	Instructional Material
Orthopaedic	Adjustable furniture, special writing material, thick pen.	Adjustable furniture provision for development of improvisation prosthetics.		
Visually impaired blind	Braille slates & stylus abacus, Taylor frame, Mobility canes.	Braille, Abacus, Taylor frame cassettes and Talking books, Maps, Embossed recreational materials.	Braille sheets, thermoform machine, Maintenance services for Braille, embossed recreational materials.	Braille text books, material on cassettes and talking book.
Partially-sighted and low vision children.	Special adaptive equipment like hand magnifiers to be used with spectacles portable reading lamps.	Special designed desks with adjustable magnifiers, white boards instead of black boards, aids for enlarged projection.	Special arrangements for producing large print materials.	Large print materials.
Hearing impaired	Individual hearing aids.	Voice trainer, large mirror size 3'x6' for speech therapy, visual illustrations.	Audiometer, Voice trainer, maintenance facilities for hearing aids.	Special learning materials like flash cards, charts, educational games, handouts of classroom activities.
Mentally Retarded		Mirrors 10'X6' in each classroom. Group hearing aids and cells for hearing aids. Sensory apparatus kits prepared on the lines of Maria Montessori or kits produced by NCERT for early childhood Education Programme.		Material written on a lower reading level than average.

Exampler-IV Teaching writing skill to Children with Upper Limb Impairment  
Children in ICD Settings.

Teaching Point	Teacher's Behaviour	Students' Behaviour	Adaptation
Teaching to write letters. For the orthopaedically handicapped child it is better to teach writing of letters with similar shape (Example of p and b has been taken).	The teacher provides cards with the letter be written in many colours saying "this is the letter b".	Students will look at the cards and observe the letters b.	The card is adjusted to the height required by the orthopaedically handicapped so that he can touch and see it.
			P B
			B P

The teacher provides another card with the letter P written on it. Students observe the card.

Instructional Resources from the resource room:

Resource Teaching is a pre-requisite of Integrated Education. Resource teaching bridges the gap between handicap and normal children. There are three basic requirements for effective resource teaching.

- i. Congenial environment - positive attitude of parents, siblings, teachers and peers.
- ii. Adequately prepared instructional materials for the child as well as for regular teachers.
- iii. The child has to be properly motivated in order to be attentive and cooperative in the resource room teaching.

Aids and equipments for Visually Impaired:

Braille Duplication and Braille Writers.

Writing Aids.

Braille Paper

Talking Books and Tape Recorders.

Mobility

Low Vision Aids

Other Optical Aids

Educational Aids/Mathematical

Educational Aids/Geography

Teaching Aids

Intelligence Tests

Vocational Aids

Measurement

Clocks and Watches

Games and Puzzles

Sports

Kitchen Equipment

Personal Devices.

Aids and Equipments for Mentally Retarded:

1. Pegs

Aim: To teach general concepts (number skill through play-way method).

2. Dominoes

Aim: To teach colour concept

3. Sensorial Apparatus

Aim: To teach size concept.

4. Matching Cards.

Aim : To teach how to match various types of figures.

5. Recreational Toys

Aim : To teach motor ability.

6. Geometrical Shapes

Aims: To teach shape concept

7. Mathematical Signs

Aim: To teach number skills.

8. Model Clock

Aim: To teach time concept

9. Alphabets/Digits.

Aim: To teach the child pre-reading.

Sand, water, colour, clay for perceptual motor training.



C O N T E N T S  
LEARNING AND TEACHING

Dr. T. Dutta,  
R.C.E., Bhubaneswar

Role of Teacher:

Teaching is a very complex task. Effective teaching depends upon the skill and competency of the teacher. An effective teacher has to keep a number of things in his mind.

A. Pupils are the pivot in teaching learning process. The success of teaching depends upon how the teacher is able to cater to the special needs of each and every child involved in the process. In order to understand the child the teacher should have the knowledge about their strengths and weaknesses in terms of their interests, aptitudes, mental abilities, their personal experiences and problems. The teacher has to depend on various testing and non testing techniques to collect the above information about the child. They are as follows:

Most commonly used Non testing techniques are:

Observation

Interview

Check-list

Rating Scales

Cumulative Record Card

Sociometric Technique

The teacher can also collect the information about the child's potentialities from the psychologists and counsellors where ever the facilities are available. The psychologists and counsellors give various psychological test to assess the intelligence, aptitude interest and personality of a child. On the basis of the knowledge of the strengths and weaknesses of the

child the teacher should organise his teaching plan and strategies. Hence the teacher has to take extra care to understand the special needs of the handicapped children before preparing any educational programme for them.

B. After understanding the special needs of the handicapped children, the teacher has to plan the learning activities in such a way, the students must feel that they are meaningful and necessary for them. In order to make the tasks meaningful, the teacher has to adopt and modify the tasks according to the need, interest and ability of the child. For example, modification and organization of physical arrangement of the classroom may be very essential for orthopaedically handicapped children. The teacher should be very flexible in choosing methods and materials which need adjustment according to the disability. For example, Blind child has to be provided with braille slate and/or other special teaching aids in order to take part in the regular classroom. Similarly the teacher should keep a lot of scope for drill and practice in order to integrate a mentally retarded child in the regular classroom.

Sometimes the teacher has to involve the parents in the teaching process so that they can carry on the practice programme at home. Time Table has to be such that adequate rest may intervene in between two periods. This is very very essential for mentally retarded children. The teacher should also make provision for peer teaching and pairing to solve the problems of learning especially for mentally retarded children. Organisation, adjustment and adaption of



material and methodology becomes easier on the part of the teacher, if he answers the following questions:

- Whom to teach - Pupil - In which category he belongs to:
- What to teach - Purpose, or instructional objectives.
- How to teach - Supportive materials and methodology according to the special need.

Hence conditions for successful teaching includes the following:

I. The teaching purpose has to be specified and spelt out in terms of instructional objectives. The teacher must be clear both about general and specific objectives of teaching. For example:-

General Objectives of teaching language supposed to be developing four skills <sup>listening</sup> like-reading, writing, speaking correctly and understanding meaningfully. Specific objective will vary according to the topic. While teaching prose the teacher develops the skill of comprehension, correct use of some words and phrases etc.

II. Understanding pupils is the second important factor for successful teaching.

- a. Pupil's interests, attitudes, mental ability and personality.
- b. Pupil's functional level and their knowledge.
- c. Pupil's strengths and weaknesses.

III. Variety of Choice of material and activities.

The teacher should use carefully a variety of activities and teaching aids according to the need and interest of the students. Different supportive teaching aids should be used for different categories of handicapped children e.g., brail and abacus for blind. Colourful Cards, charts and dolls for mentally retarded.

#### IV. Flexible use of resources.

a. Freedom: There should be enough scope and freedom for students to participate actively in the classroom activities. The teacher should encourage and invite the students to take part in classroom discussions and other activities.

b. Time: Duration of period and School should vary according to the need of the child. e.g., For mentally handicapped the duration of school and period has to be very short as they have very short attention span. Enough rest should intervene in between the periods.

c. Peer Teaching may be utilized to help the teacher. Peer may be selected as a leader of a small group and teach. Sometimes pairing or a normal good student is given the responsibility of teaching and clarifying the doubts of the handicapped peer.

d. Parents involvement in teaching handicapped children is a must. This reduces the work load of the teacher. Parents can carry on practice at home. They are more sincere in carrying out the programme than any body else. More over child's progress give a lot of moral strength and support to the parents.

#### V. Reflection and Review:

At the end of teaching the teacher should reflect, revise and review each and every teaching point. This revision helps the teacher to evaluate the efficacy of both teaching and learning process in the classroom. While teaching the handicapped children this reflection, revision and evaluation should take place after each teaching point. So the continuous revision and evaluation is very essential in teaching the handicapped children.

### Conditions of Effective Teaching:

The effective teaching depends upon a number of conditions. The first and the most important condition is that the teacher has to establish rapport or a good, friendly cordial relationship with the students, so that the children accept him and develop confidence on him.

The next condition is knowing the pupils in terms of knowledge, skills, interests and previous experience. The teacher working with the children with special needs has to

- (1) Identify the special needs or locate what kind of problems the child has, e.g. whether the child has hearing problems or visual problems or intellectual problems. The children has to be categorised accordingly.
- (2) Assessment of the functional level in different areas like, physical, motor, intellectual, social and emotional.
- (3) The teacher should also find out the child's previous knowledge and experiences in various academic and non-academic areas for placement and educational planning.
- (4) Simultaneously the teacher has to find out strengths and weaknesses for preparing Individualised Educational Programmes (IEPs) and utilize strengths and special abilities to facilitate teaching-learning process in the classroom and outside.

- (5) The teacher should select appropriate equipments and prepare teaching aids according to the special needs of the children, e.g., prepare visual and tactile aids for Hearing impaired.
- (6) The teacher should adopt adequate methods like activity method or multisensory approach to facilitate learning of the disabled children in the regular classroom.
- (7) The teacher should try to relate the classroom teaching to the personal experiences of various disabled children to make the learning in the classroom more meaningful.
- (8) The teacher should provide all types of support and remedial services to bring the handicapped children upto the level of their peers.
- (9) Besides the teacher should create congenial classroom climate for the disabled children. There should be reciprocal positive attitudes among both handicapped and non handicapped children for having good personal-social adjustment, frequent interactions and efforts to help each other.
- (10) Tasks and activities should be arranged in such a manner that both handicapped and non-handicapped children are equally interested and get equal opportunities to perform them.

- (11) The teacher should encourage and initiate the activities, so that both normal and handicapped pupil can take part equally, in those activities.
- (12) The teacher should involve both parents and peers in teaching handicapped children because they need lots of drill and practices for learning.
- (13) The teacher has to be very flexible in selecting various methods which should vary according to the subjects, levels and the special needs of the children.
- (14) The teacher has to be innovative in preparing teaching aids according to the special needs of the children.

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## CLASSROOM AND BEHAVIOUR PROBLEMS

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The mentally retarded children show behaviours of various problems which may be categorised as:

- a) Emotional Problems.
- b) Mannerisms.
- c) Attention problems.

In order to deal with these behaviours functional analysis is very essential. First identification of cause/reason of the problem behaviour and then utilization of appropriate treatment. This is known as behaviour management or behaviour therapy.

### a. Emotional Problems:-

Inferiority complex: The child feels that he/she is incapable of doing task or answering in the class which the normal children can easily do and often the teacher compare them in front of the whole class - results in inferiority complex.

Treatment: The teacher should simplify the task, if necessary prompt or ask probing questions which help to elicit the correct answer. When the child is able to give right answers with the help of the teacher, he gains self confidence which results in positive self concept and reduces inferiority complex. Thus the success experience is very essential for motivating the mentally retarded child and to enhance his self confidence and inculcate positive self concept.

### II. Stress and Anxiety

Inferiority complex and neglect by the teachers and peers leads to stress and anxiety on the part of the

Treatment: Acceptance, help and rapport by the teacher and avoidance of comparison in the class reduces the anxiety and stress of those children.

### III. Anger and Temper tantrum:

If the teacher neglect and humiliate the mentally retarded child in the classroom the child loses interest in studies, start hating the studies, teacher and peers. Many a times they become aggressive and inattentive in the class. Those children frequently utilise the aggressive behaviour and temper tantrum in order to draw attention of the teacher and the peers.

Treatment: Teacher has to ignore the aggressive behaviour and temper tantrum sometimes or reinforce the reverse behaviour i.e., reinforce the child when he does not show aggression or temper tantrum.

### IV. Frustrations:

Inability to complete the task successfully leads to frustration. Frustration results in stress and anxiety.

Treatment: However the teacher can help the child to get rid of frustration by providing success experience in the class, helping them in setting realistic goal.

### b. Manerisms:

Mentally retarded Children are often victims of various kinds of manerisms or odd behaviour, such as, pulling hair, producing monotonous sound, repeated stereotype behaviour.

Treatment: The teacher may have to utilize negative reinforcement or positive reinforcement technique according to the child.



c. Attention Problems:

Mentally retarded children suffer from short attention span. This results in distraction, lack of concentration and poor retention. Therefore in order to improve the memory of the M.R.D., enhancement of concentration and improvement of attention is very essential.

Treatment: Arrangement of the classroom or physical arrangement. These children as to be taught in a calm and quiet place which is free from distractors. The walls should be clean, and free from distractions, sounds. If necessary such children should be taught individually separated from the rest of the children. The matters has to be presented with the help of colourful aids which may attract and sustain their attention. They should follow distributed practice in place of mass practice for better retention.

Regarding Problem behaviours like pulling hair, temper tantrum:

Date	Time	Frequency of behaviour pulling hair or Temper tantrum	Treatment	Frequency in 60 mts.
1	2	3	4	5
15.4.90	10.30 to 11.30 A.M.	60 mts. 10 times	Reinforce when do not show temper-tantrum	



ROLE OF REGULAR AND RESOURCE TEACHERS  
IN INTEGRATED EDUCATION OF CHILDREN  
WITH SPECIAL EDUCATIONAL NEEDS

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Education is the most powerful agency by which a person's individuality is developed. All those who have been concerned with the education system are fully aware that the schools should be capable of fulfilling the potential of all those who pass through it including children with special educational needs. There was a time when people believed that children with special educational needs could only be educated in special schools especially meant for them. Gradually, a new thinking has emerged, leading to the recognition that ordinary schools can and should accept children with special needs.

The scheme of Integration would be successful if the teachers and parents work as equal partners to the fullest extent. It involves proper procedures for advising parents and organizing 'Handicap Awareness sessions'. Teachers can hardly be expected to take on this responsibility in addition to their other commitments. In our country particularly in the rural areas they are the only professionals to undertake this job. So, the task will fall on to them by default.

Many teachers will have their own preconceived notion about children with special educational needs and will respond to their needs in various ways. The way the teacher perceives the new situation is important because this will have consequences for both the child's education and self conceptions.

A useful way of conceptualizing the level of acceptance is to use the term, "positive discrimination continuum" and the amount of extra and special help the teacher is prepared to give to the child with special educational needs (SEN). At one end of the continuum the teacher has no objection in accepting a disabled child in the regular classroom but is not prepared to offer more than what she/he perceives as a "normal" amount of attention. In other words they welcome the SEN child but on a "sink or swim" basis. The next point in the continuum gives us the teacher who is willing to accept the SEN child and s/he is also prepared to offer extra help. But s/he tends to classify them all together as those in need of extra help. This teacher may modify her/his teaching style for the benefit of the SEN child but in a very limited sense.

A further point in the continuum will give us the teacher who takes very seriously the responsibilities of an SEN child and is prepared to make carefully thought of modifications in her/his teaching in order to meet the special educational needs of the child. S/he prepares her/his lessons in such a manner that the SEN child marches ahead along with other children of the class. S/he also ensures that the interest of the other pupils of the class is not sacrificed.

The other end of the continuum is represented by the teacher who makes rather a "big production" of the presence of an SEN child in the classroom. In his zeal to do his/her best for such a child s/he makes concessions to the SEN child at the expense of other

The findings of the researches indicate that teachers can be made aware of these needs through inservice training programmes. These programmes can be organized to discuss methods and techniques for working with SEN children and other allied matters. The teachers must clearly understand their role in an integrated setting as they have to deal with mixed ability groups.

The effect of the Education of the Disabled in the main stream can be broadly divided into two major factors:

- 1) Firstly the children with special needs who can profit by attending classes with normal children should be rightly placed in ordinary schools.

- 2) Secondly the teachers should be skilled in recognising the pupils for whom adequate arrangements cannot be made in the ordinary schools.

The teachers of the ordinary schools therefore, must be prepared to face the new challenges. They can effectively play their role if they keep note of the following points before and during the IED(Integrated Education of the Disabled) programme.

The teachers must:

- 1) have a clear concept of special educational needs.
- 2) be determined to act as 'responsible persons' to ensure that the school fulfils its duties to identify and provide for those with special needs.
- 3) take active part in the identification of the children with special educational needs.

- 4) keep the parents informed of any problems their children have as well as the proposed action.
- 5) know the various external agencies in the locality available as support services.
- 6) keep all the records properly so that the action programme is properly executed.
- 7) be willing to introduce the system of mixed ability teaching. (more personalized teaching and learning)
- 8) workout a remedial teaching programme which may help all pupils especially the children with special educational needs.
- 9) try to know about the work of those who have the child before and after them.
- 10) prepare a plan to orient the normal children by providing informations regarding the children with special educational needs.
- 11) must attend in-service courses/seminars/workshop organized from time to time.
- 12) try to ensure that these children are integrated in the real sense of the term. These children should be assigned responsibilities they are capable of shouldering alongwith other children of the classroom. They should be encouraged to take active part in all the activities and programmes of the class as well as of the school.
- 13) be willing to cooperate with the Resource teachers for providing the best possible education to these children.
- 14) develop instructional materials to teach mixed ability groups.
- 15) monitor the level of the Group's acceptance of the child and integration into the various activities curricular as well as co-curricular.

In brief, it may be stated that sound principles of teaching apply to all students normal as well as disabled. Teachers have to shoulder a number of responsibilities and are required to play a number of roles.

The effective teacher in an Integrated setting is 1) One who involves the parents and all other members of the staff of the school as well as the people of the community who are able and willing to do their best for the education of the SEN Children, 2) always prepared to make use of a variety of methods, materials and media in her/his teaching, 3) a good transmitter of information, 4) a good receiver of information, 5) a conscientious evaluator, 6) a facilitator of learning who is willing to support other teachers including the resource teachers. S/he is always eager to provide all necessary help to students for having access to the learning materials.

#### The Resource Teacher:

It is necessary to discuss who is a resource teacher before a list of her/his responsibilities is prepared. A resource teacher is a teacher who has been specifically trained to assess, teach, and evaluate the performance of the children identified as being in need of special educational services. The resource teacher is also expected to work closely with the child's regular class teacher and his/her parents in order to provide the child with a consistent and integrated programme.

The resource teacher works in the resource room but mostly s/he has to work out of a resource room.

What is a resource room ?

In the context of special education, any setting in the school to which an exceptional child may come to receive specific help (academic, behavioural, motoric, etc.) on a regular basis for specific periods of time. For the remainder of the school day, the child receives his educational programming in the regular classroom.

The flexible deployment of resource teachers is of utmost importance. The more flexibly those teachers can operate the greater likelihood of meeting the special needs of the children. Depending on the situation, a resource teacher may have to provide such attention within the regular classroom.

Role of the Resource Teachers:

1) The Resource Teachers (RT) are to assist the school authorities in the identification and placement of children.

2) S/he has to organize inservice orientation programmes for the administrators and teachers of ordinary schools. Teachers in ordinary school should be provided with basic information regarding the concept of "Special need", individual differences or the possible educational consequences of different physical or sensory conditions.

3) S/he is to provide expert advice to the class teachers regarding the possible approaches to teaching the children, with special needs.

4) S/he has to develop or provide assistance in developing instructional materials to supplement the next



5) S/he has to provide regular classroom teachers with the following information:

- i) functional level of the child
- ii) emotional, physical, intellectual and social factors of the child with special needs.

6) S/he has the responsibility of advising the classroom teachers about the new materials and new trends. The materials which can be adapted for the classwork should be shared by them. It need be the use may be explained.

7) S/he should be willing to provide individual supportive help in the regular classroom to the students with special needs.

8) S/he should take active interest in planning sessions,

9) S/he must Orient the students of the ordinary schools by providing appropriate information regarding children with with special educational needs.

10) S/he has to explain specialized equipment or apparatus required by integrated students.

11) S/he is also expected to work closely with the child's regular class teacher and his/her parents in order to provide the child with a consistent and integrated programme. S/he has to work as a specialist whose major responsibility would be to provide regular class teachers, parents, administrators, etc. with assistance or consultation regarding specific children with special educational needs and their educational programmes.

12) S/he must involve himself/herself in total school activities, for example by serving on various school committees.

The crucial question about integration is how the ordinary school teachers, the special school teachers and the resource teachers can be employed under the integration scheme. The success of the scheme depends on the dedication of all these teachers.

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# APPENDIX- I

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## THE BLIND BOYS' ACADEMY, NARENDRAPUR, WEST BENGAL

Started in 1957, the Academy is an important link in the chain of educational institutions run by the Ramakrishna Mission Ashrama of Narendrapur. It is engaged in carrying out a comprehensive plan for the education and training of blind boys so that some at least of India's about 9 million blind people may have the satisfaction of seeing fulfilled what is the chief aspiration of every normal human being.

To make this possible the Academy tries to;

- (1) Educate those among the blind boys who appear to be intellectually sharp;
- (2) Teach advanced music to the really talented among them;
- (3) Train them to work as drill and press operators, capstan operators turners and other skilled craftsmen; and
- (4) Teach scientific farming, specially poultry-keeping, dairy science, kitchen gardening, horticulture, floriculture, etc., to those who have a farming background or come from poor families of rural areas.

A beginning has already been made towards the implementation of the plan outlined above and the results so far achieved, if looked at from the point of view of REHABILITATION, are encouraging as may be seen from the table given below:

Profession	No. of blind men <u>employed</u>
School & College	30
Teachers	18
Music Teacher	173
Industrial Worker	
Workers in the Sub-Contract Workshop	26
Agricultural workers resettled in their home	164
Miscellaneous	23
<b>Total:</b>	<b>434</b>

Demonstration Van:

A new project under the placement department of Academy has been introduced in 1976. It is a mobile exhibition which is installed in a demonstration van with an inside floor area of 12' x 6' and 5.5' height. The van is equipped with power driven mini lathe, grinding and drill machine and one hand-driven rubber band cutting machine. The students of our industrial Training ( centre work on these machines in front of spectators to give them a practical idea about the blind person's capabilities. The demonstration van is often taken to the prospective employers to demonstrate what the blind, if they are properly trained, can do on power-driven machines. It is also sent to different fairs and gatherings in and around Calcutta to enlighten the public about the potentialities of the "light denied".

Agricultural Training:

It is a fact, the majority of blind population in India come from rural areas. It is, therefore, desirable that they should be trained in rural vocations, particularly in agriculture and animal husbandry.

For the last twelve years we have been running this project in an attempt to train blind youngmen in scientific farming.

Although it was an experimental project initially, the results so far achieved, bear the testimony that the project has been a successful venture and all the 115 of the 115 trainees have already been resettled in their professions like, Poultry, Goat and cow keeping..

Market-gardening, Cultivation of Paddy and Wheat etc.

As a consequence this has opened vast possibilities for the rural blind. Now what we need is that a considerable amount of farming land be procured and more facilities be provided to rural blind persons so that the Academy may absorb larger number of rural blind persons, which it cannot do with its present land and residential provision. Land is also required for arranging co-operative farming of those trained blind who have no land at all. Drive is also required for procuring and distributing land to those landless blind who want to be settled in their own individual-home setting.

#### Swimming Pool:

Swimming is one of the best physical exercises that we can have at a cheaper cost and which can offer specially to the blind a better scope for their physical activities which they otherwise can have hardly any opportunity to do. It also develops in blind children self confidence which is very much essential for them to possess for their alround development. For years together we were pining for starting such a project, and at long last the swimming pool project was commissioned in 1978 in an artificial pool with inlet and outlet facilities of water. It has created a new jubilation in the heart of blind youngsters. When situation permits competition in aquatics will be organised here, in this artificial pool.

### Teachers' Training:

Teaching the blind (or for that matter anybody who is physically handicapped) is a specialised job and the fact that there are practically a few teachers in the country who are specifically trained to teach the blind has proved a great hurdle to the work of educating the blind. The Academy started training such teachers on a regional basis in 1965 and since then trainees representing different schools and organisations for the blind in the Eastern Region and also of South India have been trained.

### Braille Press and Braille Library:

The Academy started a Regional Braille Press in 1967 here at Narendrapur, which is producing Braille books to meet the needs of blind students living in the Eastern Region of India i.e., Assam, Orissa, West Bengal, Tripura, Manipur, etc. Up to 1986 the Press has completed braillying of books for classes I to VIII and most of the text books for classes IX & X including annual calendars and also a few books of the higher secondary standard.

The languages covered by the Press are Bengali, English, Sanskrit, Assamese, Oriya and Manipuri.

### Talking Book Studio:

A well equipped talking book studio has started functioning in 1976 in the new site of the Academy to facilitate recording of reading materials as also listening to the sound-scribed books for a single individual or whole class at a time. This studio shall also work as a language laboratory to help offer speech

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therapy for the blind children having speech defect. It is being contemplated that the services of the studio and its talking books be extended to entire eastern region in future.

Restoration of Physique and  
Assessment of Abilities:

It often so happens that while a boy is known to be blind, there is really no such damage yet to his eyes that it is not possible, with a little care and treatment, to restore his sight; indeed, many instances are known in which one or two surgical operations and some medical and dietary care have given back a near normal vision. Also it has been observed that often a blind child suffers not only from blindness, but also from other ailments some of them having their roots in other organs. It is, therefore, necessary that there be a well-equipped clinic attached to the Academy which will be charged with the task of thoroughly examining a blind person first to see if it is possible to restore his sight and then, to see if there is any other organ in his body which is damaged like the eye and not functioning normally. Unless such a thorough test is undertaken no reliable assessment of his abilities can be possible and any decision that is made regarding his course of training based on wrong or insufficient data is likely to lead to frustration, if not, what is worse, also to further damage to his body.

Spice Grinding:

Since May 1986, the Blind Boys' Academy have started a new venture-spice powder and naphthalene ball making units for self-employment of those visually

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handicapped post trainees, who are waiting for employment.

Now-a-days procurement of direct/open employment for the blind has become a difficult proposition for the acute problem of unemployment. To find other channels, the present self-employment venture has been started.

Presently 8 (eight) blind workers have been engaged in training for a period of 1(one) year, to learn making spice powder and naphthalene ball, operating heat sealing machines, drying, packing etc. as also to sale the products, to create market for the future self-employment.

On completion of their training the trainees-cum-workers would be encouraged to start a small business either individually or in a group of 4/5 ex-trainees. Nationalised Banks have assured the financial assistance for these enterpreneurs.



## APPENDIX-II

### NATIONAL INSTITUTE FOR THE ORTHOPAEDICALLY HANDICAPPED

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#### THE INSTITUTE

National Institute for the Orthopaedically Handicapped was established in a spacious campus, at the northern outskirts of Calcutta on S.T.Road, Bon-Hooghly, Calcutta-90, in 1978. It is an autonomous society under Ministry of Welfare, Govt. of India.

#### OBJECTIVES

- a) To develop manpower for providing services to the orthopaedically handicapped population.
- b) To conduct and sponsor research in all aspects relating to the rehabilitation of the orthopaedically handicapped.
- c) To standardise aids and appliances and to promote their manufacture and distribution.
- d) To develop model services in the area of restorative surgery, aids & appliances, and vocational training.
- e) To serve as the apex Documentation and information centre.
- f) To provide consulting services to the State Governments and Voluntary Centres.

#### SERVICES

For the purpose of realising the objectives in the field of treatment, training and research, the institute has developed appropriate programmes, services and facilities through its following units:

- \* Assessment Clinic
- \* Restorative Surgery Unit

- \* Disabled Hostel
- \* Orthotic & Prosthetic Unit
- \* Physiotherapy and Occupational Therapy Unit.
- \* Psychology, Vocational & Social Counselling Unit.
- \* Polio Immunisation programme.
- \* X-Ray & Pathology Unit
- \* Photography Unit
- \* Library & Documentation Centre
- \* Medical Service circular
- \* E.M.G.
- \* Computer
- \* Diapulse

The Institute in last few years has developed specialised services for:

- \* Spinal Cord injured (SCI)
- \* Spinal deformities
- \* Post Polio Syndrome
- \* Amputee
- \* Cerebral Palsy
- \* Arthritis
- \* Congenital conditions leading to locomotor disability.

The treatment is provided free for those within the income group of Rs.1200/- per month. Free aids and appliances are provided to patients having monthly income of less than Rs.1200/- and, only 50% of the cost is charged from patients in the income group of Rs.1200/- to Rs.2500/-.

TRAINING PROGRAMMES

For the purpose of realising one of its major objectives of manpower development in the field of locomotor disabled NIDH conducts several courses.

1. Bachelor of Physiotherapy, affiliated to the University of Calcutta.
2. Bachelor of Occupational Therapy, affiliated to the University of Calcutta.
3. Diploma in Prosthetic & Orthotic Engineering, recognised by Rehabilitation Council, Government of India.
4. Diploma in Physiotherapy, recognised by Govt. of India.
5. Diploma in Occupational Therapy, recognised by Govt. of India.

Short term orientation courses are organised for professionals to update their knowledge with latest developments in the field.

Institute also conducts seminars, workshops, symposiums and group discussions regularly and these are open to the professionals working in Govt. and Non-Govt. Organisation. All these together have created an excellent supportive environment for the handicapped who will begin their journey for thousand miles by beginning the first step here.

Polio Clinic on every Friday 11 A.M.

General Counselling Clinic on every

Tuesday and Wednesday. 11 A.M. to 1 P.M. - 2 P.M. to 4 P.M.

Special Clinic on every Thursday 2.30 P.M.



## APPENDIX-- III .

### CALCUTTA BLIND SCHOOL ESHA LA, CALCUTTA - 700 034

Calcutta Blind School was set up by Late Rev.L.B. Shah in 1894 in order to uphold the cause of the sightless in the society. This is a secondary school which offers equal opportunity to the sightless boys and girls on a large scale irrespective of caste, creed and colour. The school have classes from Kindergarten to Class X. Since visually impaired children need individualized instructions, only 12 students are accommodated in each class. Every year the children who appear at the Madhyamik Examination, come out successfully obtaining first division and securing very high marks.

Besides academic classes, the institution provides facilities in music, craft, regular sports activities including Scouting guiding, Cubbing and Busbul.

The work education programme includes Book Binding, Making of Taster, and Hanger, Weaving Door mats and basket making, preparing chalks and candles.

A Guide competition was held on Integrated level on 28.2.1993. Eight sightless guides participated and won prizes for games and sports and stood first in cultural competition. They received cups and shield.

Since typing is the only communicative medium of the sightless with seeing world, a project was started in 1984 and the students of Classes VIII and IX are being trained in this line.

30-Beded Girls' Hostel is on the point of completion and will be inaugurated on 1.12.1993 on the occasion of Centenary year. On the same occasion four

class rooms with two storied building is also on the point of completion in the cantenary school building. One of these rooms will be allocated to Computer Training Programme for sightless and other three room will be utilized for music, general classroom with special apparatus for geography.

#### APPENDIX - IV

BODHI PEET SCHOOL SECTION  
20, HARINATH DE ROAD, CALCUTTA-700009

#### ABOUT THE SCHOOL

Bodhi Peet School is the first school for Mentally Handicapped Students in West Bengal which was established in 1954. The School progressed through by contributions of renowned educationists of Calcutta University. Late Mr. S.C. Bisi and Late Miss Rekha Ghosh had put in a lot hard work to develop the school.

The school is now under the Sponsorship of Government of West Bengal since 1986. It is a special school for Mentally Handicapped children ranging from 4 years to 21 years of age.

The school is run by qualified personnel and provides training and Special Education to all ranges of Mentally Handicapped students. Bodhi Peet School attempts to provide all possible means and facilities necessary for their optimum development.

The school has received a good deal of public encouragement from the professionals and parents of the handicapped for its activities and dedicated work with the Mentally Handicapped.

### WE PROVIDE

ASSESSMENT - as an integral part of the training programme. The students are assessed by a team of professionals prior to their entry and periodically during educational and training programme.

### INDIVIDUALISED TRAINING PROGRAMME

Each child receives individualized training programme in functional academics, motor development, social skills, Pre-vocational & vocational skills and Self help.

### BEHAVIOUR MODIFICATION

Very often Mentally Handicapped Children exhibit behaviour problems like aggression, self injury, repetitive behaviour etc. The School gives special attention to these problems.

### REHABILITATION AND INTEGRATION

The School gives special attention to rehabilitate its students vocationally & socially in the Society.

### MEDICAL FACILITIES

Medical Specialists attend to the medical ailments of the students as and when required.

### CREATIVITY

We give training in Dance, Drama, Music, Art & Craft to all our students.

### CULTURAL ACTIVITIES

Our students participate in cultural activities and social functions. Our students also go for picnics and holiday Camps.

## OUR BENEFICIARIES

Under privileged mentally Handicapped Persons,  
All our services are FREE for all the students in our  
School.

## WE PROPOSE

- To start an Out-Station Department for individualized home-based training programmes for the children, who cannot attend school regularly.
- To start Speech Therapy, Physio-Therapy and occupational Therapy in school.
- To enhance our Vocational Training units.
- To start Transport facility for all our students.
- To have a more spacious accommodation for our School.



## APPENDIX - V

### CALCUTTA DEAF SCHOOL

Calcutta Deaf School was established in the year 1893 at 293 A.P.C. Road in the heart of Calcutta city. It is a residential school for hearing impaired children. The school is open for both boys and girls from the age group of 3+ to 15 years. The medium of instruction is both Bengali and Hindi. At present about 1000 hearing impaired children are reading in the school.

The children are taught by oral and aural method. The classes are filled with powerful group hearing aids and loop induction hearing aids.

The school follows the prescribed syllabus meant for the normal hearing children. The syllabus is adopted and adjusted wherever necessary. Along with the academic activities, the school provide pre-vocational guidance like blacksmith, tailoring, clay modeling, printing, cutting and binding, wood work and embroidery to the children. These vocational services help them for their self employment at the end of their schooling.

There is one Training College for the Teachers' of the Deaf attached to the school. The school works as a demonstration/practising unit for the practising teachers. The parents and inservice teachers are trained in this College.

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## APPENDIX - VI

### MADRAS DEVELOPMENTAL PROGRAMMING SYSTEM

The Madras developmental programming System's (MDPS) Behavioural scales are designed to provide information about the functional skills of the mentally retarded persons for purposes of individualized programme planning. The scales contain 300 items grouped under 13 functional domains. As an aid to programme planning, the items under each domain are developmentally sequenced along a dependence/independence continuum. The scales are designed to collect information about the retarded person by those people who have an interest in the life of the retarded person.

#### INSTRUCTIONS:

Read the instructions all the way through before beginning the assessment.

In order to use the Madras Developmental Programming System for behavioural assessment the following materials are necessary:

1. this booklet, containing the behavioural scales and instructions.
  2. the behavioural profile form.
  3. ABAK - Adaptive Behavioural Assessment Kit in the profile \_\_\_\_\_.
- Complete the identifying information.
  - Mark 'A' or 'B' as per instruction for the initial assessment. Count and enter the total number of 'A's and 'B's.
  - For the initial assessment and the first, second, third and fourth quarter evaluations follow the markings as indicated in the profile.

Assess the person keeping the following points in mind.

- \* If the person can perform the behaviour, mark 'A'.

- \* If no additional training is required for the person to perform the behaviour mark 'A'.
- \* If the behaviour is too simple and consequently inappropriate mark 'A'.

Example:- Offers little or no resistance while being washed.

A person who is able to wash himself would be marked 'A' for this item.

- \* If the person cannot perform the behaviour, Mark 'B'.
- \* If additional training is required for the person to perform the behaviour Mark 'B'.
- \* If the person cannot perform the behaviour due to physical handicap or absolutely had no opportunity to perform the behaviour mark 'B'.

Example: Travels by public bus to and from any destination. A person who lives in an area without public transportation would be marked 'B' for this item.

- \* Observe the behaviour directly or consult with some one who has observed. Assessment is based on direct observation-yours or some one else's. Most of the behaviours will occur in routine daily life where you, can easily observe.

However, some behaviours will not take place where you can see them. Then you must either:

Consult with other people such as a teacher, employer, parent, doctor or social worker who may have directly observed the person's behaviour in another setting, or if all else fails.

- \* Do not read between the lines or make guesses. Each item means only what it says.

Example: Sits quietly at a table for two minutes. This means that the person sits at any table and acts in a quiet way for two minutes. The person may be doing some other activity at the same time, such as reading, playing a game or eating. The item does not limit the activity to just sitting nor does the item specify the kind of table.

- \* Do not give assistance unless so stated.

Example: Selects correct sizes and styles of clothing at a store.

The person must select the clothing without assistance to be marked 'A'.

- \* If there is no possibility to observe certain behaviours in natural setting, then you may a setting. However, simulation is permitted only for items in the following scales:

Scale 1, Gross Motor  
Scale 2, Fine Motor  
Scale 3, Grooming  
Scale 8, Expressive Language  
Scale 10, Reading  
Scale 11, Writing  
Scale 12, Numbers  
Scale 13, Time  
Scale 14, Money  
Scale 18, Vocational

#### MDPS - BEHAVIOURAL SCALES

##### 1. GROSS MOTOR DEVELOPMENT

1. Holds head erect when in sitting or standing position (body may be supported by a person or prop).
2. Holds head up for 5 seconds when lying on stomach.
3. Sits without support.
4. Rolls over on flat surface from back to stomach or stomach to back.
5. Moves from lying on stomach to sitting position.
6. Creeps or crawls about a room containing furniture and/or other people.
7. Pulls self to standing position using person or prop for support.
8. Stands unsupported.

9. Walks 5 feet (May use braces or crutches).
10. Crawls forward and backward.
11. Walks upstairs and downstairs putting both feet on each step (may use wall or handrail for support).
12. Walks a straight line for 10 feet.
13. Pushes or pulls a wagon-type object while walking 10 feet.
14. Runs.
15. Squats.
16. Walks upstairs and downstairs, alternating feet (may use wall or handrail for support.)
17. Jumps up, both feet off the
18. Climbs up and down a
19. Stands on tip toe for 10 seconds.
20. Rides a bicycle (without training wheels) for 30 seconds/swims.

## 2. FINE MOTOR DEVELOPMENT

1. Closes hand around an object placed in hand.
2. Reaches for and grasps objects.
3. Use both hands at the same time when handling an object.
4. Pick up small objects using thumb and fingers only.
5. Carries a paper cup without crushing, tipping or spilling.
6. Turns a door-knob and opens the door.
7. Makes a stack of 3 cans, or tiffin carrier or wooden blocks.
8. Uses spoon to stir food or drink.
9. Strings three one-inch beads or spool on to a string.
10. Unscrews a jar or bottle lid.

11. Pours liquid from a pitcher into another container without spilling.
12. Tears off a perforated sheet.
13. Cuts with in 1/8 inch of a straight line drawn on paper using scissors.
14. Places a key in a lock and opens the lock.
15. Cuts out a circle with in 1/8 inch of a line drawn on paper using scissors.
16. Folds a letter to fit an envelope and inserts letter into envelope.
17. Seals envelope with 'letter enclose' and puts on a stamp.
18. Uses a screw driver to insert or remove screws.
19. Strikes a safety match within 2 tries.
20. Threads a medium sized sewing needle within 2 tries.

### 3. EATING

1. Swallows soft foods that do not require chewing.
2. Drinks, without spilling, from a glass or cup with assistance.
3. Picks up food with fingers and puts food in mouth.
4. Uses spoon/hand to pick up and eat food (need not to skillfull).
5. Chews solid food.
6. Picks up a glass and drinks from it without spilling.
7. (Eat a complete meal with little or no spilling. (may use only fingers and spoon).
8. Drinks from a drinking water tap using hand.
9. Use fingers to pick up and eat food.
10. Waits in line and carries a tray in a dining facility.

11. Eats, supervised in public without calling attention to eating behaviour.
12. Eats Idli/Dosai/Puri/Roti (Uses fingers to meal bits).
13. Eats a complete meal with little or no spilling using all normal dishes and utensils.
14. Eats porridge/payasam from a plate using spoon or fingers.
15. Takes proper portions when food is offered.
16. Displays table manners such as politely asking for food to be passed.
17. Serves self in a family-style setting.
18. Selects and requests food from a limited menu by telling choice to person responsible for delivery.
19. Selects a nutritious and complete meal when variety of foods are available.
20. Orders and eats in public dining facility.

#### 4. DRESSING

1. Offers little or no resistance while being dressed and undressed.
2. Extends and withdraws arms and legs while being dressed and undressed.
3. Removes slip-over shirt.
4. Removes socks, underpants, unzips outer pants and unbuttons shirt dress.
5. Undresses self completely (may need help with belt or bra).
6. Puts on underpants, slip-over shirt or dress outer pants and socks.
7. Puts on jacket/Kurta (need not fasten).
8. Unzips clothing with front zippers.
9. Dresses self completely except for fastenings such as buttons, zippers, ties, or hooks.



10. Puts shoes on correct feet.
11. Buttons clothing.
12. Starts and closes a front zipper.
13. Ties a bow knot in shoe laces.
14. Laces shoes with a lace in each eyelet.
15. Puts on and takes off hats, scarves, belts, watches or jewellery.
16. Puts on outer wear without reminder in response to cold or rain.
17. Selects clothing for seasonal and weather conditions and different occasions.
18. Selects correct size, type and style of clothing at a store.
19. Wears Dhoti (Half saree/lungi).
20. Wears Dhoti/Saree and manages the whole day.

#### 5. GROOMING

1. Offers little or no resistance while being washed.
2. Turns head and extends hands while being washed.
3. Puts hands under running water for washing.
4. Dries or blots hands with a towel.
5. Begins brushing motion for cleaning teeth.
6. Wipes face with a wet wash-cloth including forehead, cheeks, nose and chin.
7. Wipes nose with an arm, hand, when nose is running.
8. Soaps and rinses hands.
9. Bathes in a tap or shower.
10. Runs a comb or brush through hair with several strokes.
11. Blows nose in a handkerchief.
12. Soaps and rinses arms and upper body.
13. Uses tooth-paste or tooth powder, brushes teeth and rinses mouth.
14. Dries entire body with a towel after bathing.

15. Applies powder/deodorant.
16. Washes, rinses and dries hair.
17. Grooms hair including washing, drying, combing and curling (if appropriate).
18. Maintains self-clean, odor-free and groomed.
19. Cleans and clips finger nails with a nail clipper.
20. Shaves (male)/manages during menstrual period(female).

#### 6. TOILETING

1. Stays dry for two hours.
2. Sits on the toilet for 30 seconds.
3. Eliminates when on the toilet (bowel or bladder)
4. Removes clothing before sitting on the toilet.
5. Goes to the bathroom with a reminder.
6. Has bowel control at night.
7. Has bowel control.
8. Replaces clothing before leaving the bathroom.
9. Removes clothing, sits on the toilet and eliminates and replaces clothing.
10. Has bowel and bladder control.
11. Indicates by gestures or words when needing to use the toilet.
12. Goes to the bathroom independently.
13. Uses only a urinal or toilet for urination.
14. Flushes the toilet after use.
15. Obtains help with toileting problem.
16. Cleans self using water.
17. Asks the location of the bathroom in new situations.
18. Closes door of bathroom for normal privacy in toileting.
19. Washes and dries hands after toileting.
20. Knows the correct rest room in a public place.

7. RECEPTIVE LANGUAGE

1. Turns head towards the source of a sound.
  2. Responds by eye contact or verbal acknowledgement when name is called.
  3. Responds to the instruction, "Look at me" with 2 seconds of eye contact.
  4. Obey simple instructions such as, "Come here".
  5. Performs the appropriate action when the word "me" is used such as "Give me the ball".
  6. Stops an activity upon request such as "N" or "stop".
  7. Sits quietly for 3 minutes while a story is being read.
  8. Follows prepositions such as "put the ball in box" or "put the broom behind the door".
  9. Responds to non verbal communications from others such as frowning, crying, smiling, etc., by returning the gesture or giving an appropriate verbal response.
  10. Points to many common objects such as ball, spoon, etc.
  11. Points to pictured objects in a book upon request.
  12. Points to 10 body parts such as nose, eyes, mouth, etc., upon request.
  13. Follows two-step directions in order such as, "Get the ball and close the door".
  14. Points to large and small objects upon request.
  15. Identifies 3 colours out of a group of colours when asked, "which colour is blue ? red ? etc."
  16. Follows three-step directions such as "stand-up, open the book and move the chair".
  17. Follows verbal directions to get from building to building in a familiar setting.
  18. After listening to a one-page story answers "Yes" or "No" to specific questions about it.
  19. After listening to a one page story, answers questions about it such as "What happened first, to whom?"
  20. Summarises a TV/radio programme in own words.
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8. EXPRESSIVE LANGUAGE

1. Makes voice sounds.
2. Uses voice sounds to get attention.
3. Changes the tone and rhythm of voice sounds.
4. Says or indicates, "Yes or No" in response to questions.
5. Imitates five words heard either singularly or all at once.
6. Uses two-word phrases such as, "Hello, Friend", "Go out" or "Eat biscuit".
7. Says 20 words.
8. Names 10 common objects when asked, "What is this"?
9. Says first and last name when asked.
10. Names 10 body parts when ask, "What is this"?
11. Uses phrases of four words.
12. Expresses feelings, desires or problems in complete sentences (Subject-verb) such as "I am hungry".
13. Asks simple questions such as, "What is this" or "Why can't I "?
14. Uses pronouns such as "I, you, he, her, me or mine" in a complete sentence.
15. Speaks in phrases or sentences clearly enough to be understood by someone not familiar with the person.
16. Uses two-part sentences such as, "I saw Ram and I asked him to help me".
17. Carries on a conversation with another person(s) for 10 minutes.
18. Says address of residence clearly when asked.
19. Describes past events in a logical order.
20. Tells jokes.

9. SOCIAL INTERACTION

1. Reacts when touched by reaching towards or moving away.
2. Looks toward or otherwise indicates a person in the immediate area.
3. Follows a person with eyes or otherwise responds to a person moving.
4. Spends time alone with toys or objects for 2 minutes.
5. Imitates arm movement such as clapping hands or writ waving good bye.
6. Spends 5 minutes interaction with one or two other persons.
7. Waits for turn in a group.
8. Identifies friends and acquaintances from strangers.
9. Spends 10 minutes interacting with one or two other persons sitting at a table.
10. Follows directions from others.
11. Waits for 2 minutes for an object wanted.
12. Greets others upon meeting either verbally or with non-verbal friendly gestures.
13. Appears comfortable with members of the opposite sex in social situations.
14. Participates actively in social events by engaging in the same activity as the other members of the group.
15. Says "Please" and "Thank you".
16. Shares possessions with others.
17. Responds with a to proper social courtesies such as greetings, apologies or compliments.
18. Uses things that belong to someone else only with their permission.
19. Invited others to participates in an activity such as going for a walk or going to a movie.
20. Receives and makes local phone calls without assistance.

10. READINESS AND READING

1. Sits quietly at a table for 2 minutes.
2. Looks at objects presented when seated at a table.
3. Turns the pages of a book one at a time.
4. Points to 5 common objects when objects are named.
5. Identifies different sounds, such as bell ringing, hands clapping, whispering, keys jingling.
6. Sorts 3 objects by shape.
7. Identifies 3 primary colours by naming them when an object of that colour is presented.
8. Sorts pictures of similar and/or familiar objects into the same category, such as animals, people, vehicles.
9. Follows printed material left to right.
10. Selects 1 printed letter from 3 when it is different such as "b, c, b".
11. Reads out common words with 3 letters.
12. After seeing pairs of words such as "pat, pen" or "cat cat" identifies which pairs are the same.
13. Identifies/Reads alphabets from A to Z (may look at letters).
14. When shown 5 pictures arranged to tell a story and then mixed up, arranges them again in sequence.
15. Reads the following words when when shown on flash cards: "Stop, men, women, danger, poison, exit".
16. Reads aloud sentences with 5 common words.
17. Reads a simple sentence and answers questions about it.
18. Reads a story to others.
19. Reads for information or entertainment.
20. Reads a simple story silently and states its main idea.

### 11. WRITING

1. Grasps chalk, pencil or crayon.
2. Scribbles with chalk, pencil or crayon.
3. Grasps chalk, pencil or crayon with thumb, index finger and middle finger.
4. Imitates someone moving hand from left to right across a page.
5. Marks on a chalk-board or paper in circles and lines.
6. Traces with pencil or crayon along a three inch straight line with 1/8 inch tolerance on either side.
7. Trace with pencil or crayon around the outside of a six-inch circular object in a continuous motion.
8. Copies with a pencil a three-inch straight line with 1/8 inch tolerance on either side.
9. Draws an X with an example to look at.
10. Draws a circle with no example to look at.
11. Draws a line connecting 3 dots on a piece of paper.
12. Copies upper and lower case alphabets with examples to look at.
13. Writes or prints first and last name with no example to look at.
14. Writes or prints legibly (readably).
15. Stays on the lines when printing or writing.
16. Copies a printed sentence legibly including all the punctuations and capital letters.
17. Copies a paragraph legibly on to an 8-1/2 by 11 inch sheet of lined paper writing on the lines.
18. Writes or prints dictated words.
19. Writes or prints dictated sentences legibly, including capitalisation and punctuations.
20. Writes or prints personal letters for mailing using legible handwriting in an informal letter style.

### 12. NUMBERS

1. Separates one object's one object from a group upon the request, "give me one block", etc.
2. Creates order out of a group of objects by lining up, stacking, or placing them in some other pattern.

3. Repeats 2 numbers in the order given.
4. Points to the short or long line when asked.
5. Chooses the correct number of objects upto 5 upon request "Give me one block etc."
6. Counts to 10.
7. Indicates the difference between "more" and "less" when shown two different sized groups of objects.
8. Matches equal numbers, upto 5, of different kinds of objects such as 2 biscuits with 2 shoes.
9. Name the printed number symbols 1 through 10.
10. Follows directions to fill a glass half full.
11. Repeats 5 single-digit numbers in the order given .
12. Places the printed number symbols 1 through 10 in order.
13. Prints the number symbol 1 through 10.
14. Counts from 10 to 20.
15. Matches the printed number symbols 1 through 10 with the correct number of objects.
16. Adds single digit numbers with sums upto 10 such as  $7 + 2$ ,  $2 + 1$  or  $8 + 0$ .
17. Prints the number symbols from 1 to 100 in order .
18. Subtracts single digit numbers upto 10 such as  $9 - 1$ ,  $3 - 1$ , or  $5 - 3$ .
19. Uses the concept of carrying in addition and borrowing in subtraction.
20. Multiplies and divides single and double digit

### 13. TIME

1. Associates the time of the day with activities such as meals or bed time.
2. Responds to "now", "later", "hurry" and "wait" .
3. Answers correctly when asked, "Is it day or night" ?
4. Answers correctly when asked, "Is it morning or afternoon " ?
5. Indicates own age vocally, with fingers or by writing.
6. Understands the difference between yesterday, today and tomorrow.



7. Names or identifies the 7 days of the week.
8. Answers correctly when asked "What day of the week is today" ?
9. Names or identifies the numbers on the clock.
10. Names or identifies the seasons of the year.
11. Names or identifies the 12 months of the year.
12. Answers correctly when asked "What month and year is it now" ?
13. Tells or identifies birth-date, month, day and year.
14. Indicates the passage of 5 minutes on a clock.
15. Sets a clock to within one hour of the correct time after hearing the correct time.
16. Indicates the passage of 5 minutes, give or take 2 minutes, without the use of the clock.
17. Tells time to the minute on a clock or watch.
18. Sets a clock or watch to within one minute of the correct time after hearing the correct time.
19. Meets a particular scheduled bus.
20. Arrives on time for an appointment made one week in advance.

#### 14. MONEY

1. Sort coins from other small metal objects.
2. Uses money to buy things (might not use correct amount).
3. Selects a rupee note from other paper objects.
4. Sorts mixed coins into groups of 5p., 10p., 20p., 25p., 50p., re. 1 and re. 2.
5. Selects 5p., 10p., 25p., and 50p., coins from a group of coins.
6. Saves money such as in a "Piggy Bank" (Money Box)
7. Identifies 1, 2, 5, and 10 Rupee notes by naming them when asked.
8. Rank orders, 5p., 10p., 20p., 25p., and 50 p., coins in order of value.
9. Exchange 5p., coins for a 50 paise coin.
10. Makes purchases at local stores.

11. Exchanges 5, 10 paise coins for one rupee.
12. Exchange 25 paise coins for Re.1.
13. Exchanges the correct number of mixed coins for 25 paise.
14. Exchanges the correct number of mixed coins for 50 p.
15. Exchanges the correct number of mixed coins for 1 rupee.
16. Saves money in a bank account.
17. Counts the change from a purchase of 1 rupee or less.
18. Gives an adequate amount of money for purchases over 1 rupee and counts the change.
19. Counts the change from a purchase of 5 rupees or less.
20. Uses a checking account.

#### 15. DOMESTIC BEHAVIOUR

1. Picks up household trash or litter and places it in a waste basket upon request.
2. Puts away personal items in the proper location upon request.
3. Puts dirty clothing and clean clothing in the appropriate places.
4. Makes bed.
5. Damp-wipes a kitchen or classroom table.
6. Folds clothing and puts it away in a drawer.
7. Dusts a floor with a dust cleaner.
8. Sweeps a floor with a broom, picks up sweepings in a dust pan and empties the pan.
9. Dusts furniture, leaving no dust on flat surfaces.
10. Sets a table for lunch (need not be a formal setting).
11. Washes and dries dishes by hand.
12. Wet mops a floor.
13. Shovels sand or rakes leaves, leaving the surface clean.
14. Operates a grinder, millie or grinding stone.

15. Prepares coffee or tea.
16. Uses a cooker and knows when to take it off from the fire.
17. Buys the necessary things needed for cooking.
18. Washes, dries and irons clothes.
19. Does simple mending such as sewing on buttons or rejoining broken seams, using needle and thread or machine.
20. Prepares and serves a meal including one hot dish.

#### 16. COMMUNITY ORIENTATION

1. Finds way alone from place to place within a familiar building.
2. Performs simple errands within a familiar room.
3. Finds way from one building to another in a familiar setting.
4. Goes to public places in a supervised group without calling unfavourable attention to behaviour.
5. Chooses the correct rest room in familiar public place.
6. Conducts self in public in the company of a peer (same age group) of the opposite sex without calling attention to self.
7. Identifies policeman, a fireman and a bus driver.
8. Interacts appropriately with strangers in public.
9. Crosses residential street intersections, looking in both directions and waiting for traffic to clear before crossing.
10. Responds appropriately to social "kidding" teasing in public.
11. Moves about freely in a familiar community.
12. Goes on foot or bicycle to a familiar place over one-half mile from residence.
13. Obeys lights and "walk" - "Don't walk" signals at a light controlled intersections.
14. Identifies a bus-stop and indicates its purpose.
15. Acts appropriately in all normal public situations.
16. Leaves an awkward public situation that is beyond control and seeks help.

17. Walks along a road that has no side walk.
18. Telephones to residence for information or assistance when necessary.
19. Travels by public bus to and from any destination.
20. Holds a valid driver's licence.

17. RECREATION, LEISURE TIME ACTIVITIES

1. Engages in a leisure-time activity for 5 minutes when materials are set up.
2. Bounces, throws or catches a ball .
3. Watches T.V. without disturbing others.
4. Finger paints.
5. Brush paints.
6. Participates in group singing or dancing.
7. Participates in the activities of the community without disturbing others.
8. Plays simple table games with others.
9. Puts together puzzle of 6 pieces.
10. Watches TV or listens to the radio by selecting a station turning on and off etc.
11. Participates in 3 outdoor activities, such as swimming, biking or gardening.
12. Does arts and crafts such as clay work, leather work or bead work.
13. Uses a canteen, park, library, etc.
14. Participates in organisations such as scouting or any clubs.
15. Initiates self-involvement in a hobby not including reading or watching TV.
16. Does gardening. .
17. Participates in organised team sports such as cricket, basket ball, or volley ball.
18. Uses community recreation facilities for recreation, I leisure time activities.
19. Selects books from library for personal reading.
20. Plays a musical instrument.

18. VOCATIONAL

1. Assumes a body position at a task or at play such that both hands are available for use.
2. Participates in a single activity for 10 minutes (if protected from interruption).
3. Attends to a single activity in a room with people.
4. Assembles two-part objects that fit together in a simple but secure way.
5. Attends to an assigned task or activity for one-half hour (may need to be encouraged).
6. Attempts to do an assigned task without resistance.
7. Puts away own tools and materials at the end of a task (May need a reminder upto one-half of the time).
8. Tosses hand-sized objects into an open box or waste basket at a distance of 3 feet.
9. Stops a task when it is done.
10. Attends to work while in a group without distraction others.
11. Changes activity without showing discomfort when assigned from one task to a different task.
12. Goes to an assigned area without reminder in a routing daily programme.
13. Undertakes and completes a task in order to receive money.
14. Indicates if own performance meets the standards set for an activity (these standards may be very low).
15. Uses a hammer to pound, pliers to grasp and screw driver to turn (need not be skillful).
16. Increases speed of work when told to do so.
17. Arises and leaves from residence so as to reach work or activity on time.
18. Assembles objects with 5 part that must be put together in a particular order.
19. Uses public transportation on one local route such as from residence to work and back.
20. Operates power hand tools such as a drill or food mixer without a supervisor present.